


JULY 4, 1960

PURCHASING

The Methods and News Magazine for Industrial Buyers



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PUBLICATION

SEVENTY-FIVE CENTS



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Bottle Imp Tamed for Keeps

WHETHER HE ATTACKS metal jar lids and bottle caps from inside or out, this corrosive imp is a threat to foods and beverages...

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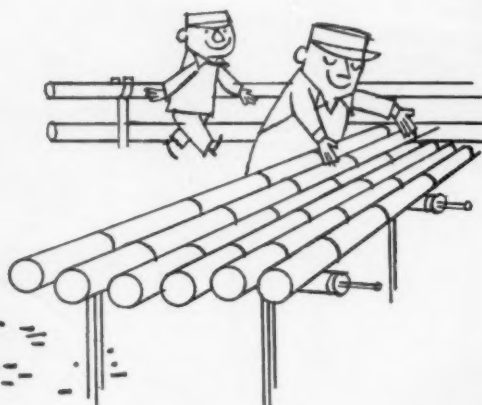
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THE job this man's doing used to be plenty dangerous. He's using scalding steam to cure concrete locks on a big construction project in southern Ohio. Heat used to weaken steam hose. Sometimes it burst with explosive force, spraying scalding steam, seriously injuring workmen.

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PURCHASING

The Methods and News Magazine For Industrial Buyers

JULY 4, 1960
VOLUME 49, No. 1

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Vice President and Publisher

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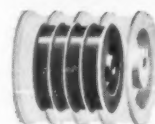


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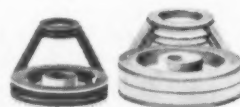
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HY-T, Green Seal—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

Straws in the Trade Wind

► **STEEL UPTURN COMING** — The steel operating rate will start turning up at the beginning of next month, says the head of the nation's largest steel company. Roger M. Blough, chairman of U.S. Steel Corp., also feels that the low point for the operating rate will be at about 58% of capacity. The upturn, he says, will come when buyers alter their policy of steel inventory reduction.

► **ESTIMATED COAL CONSUMPTION**—Bituminous coal consumption in 1960 should be 424 million tons, says the National Coal Association. This estimate is down from the 431 million tons predicted in March, because of reduced demand from the steel industry and a leveling off of the economy. Electric utilities, the largest consumer, are expected to use 178 million tons. Exports are expected to hit 35 million tons.

► **BUSINESS FAILURES DECLINE** — The number of business failures declined in May for the first time this year. Failures totaled 1273, down 7% from the previous month reports Dun and Bradstreet. Total dollar liabilities, however, were \$73.3 million—the largest volume in 16 months.

► **ILLEGAL KICKBACKS** — The House of Representatives is considering a bill that would

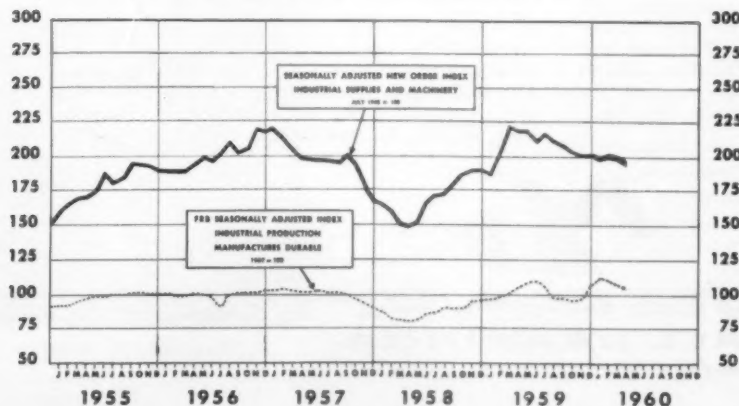
For the P.A.'s Hot File . . .

Prices of copper wire and cable have been tumbling—and may continue to fall in upcoming weeks. Some categories of electrical wiring material are being sold to purchasing agents at prices considerably below those of a year ago. The main reason? The recent decline in the construction industry. Industrial, commercial, and residential building have all dropped off from earlier levels—and sales of wiring for these projects are correspondingly down.

make kickbacks on negotiated government contracts illegal. The measure is designed to broaden an existing law to cover the salesman offering the kickback and the procurement official accepting it. Maximum penalty would be a \$10,000 fine and two years in prison.

► **SPECIALTY STRIP DEMAND RISING**—Demand for special strip steels will double during the next 10 years, says John A. Johnson, manager of National-Standard Company's Athenia Steel Division. Purchasing agents will increasingly insist on more "custom tailoring"

Industrial Supplies and Machinery New Order Index



New orders for industrial supplies and machinery were down 2.5%, according to the latest report of the American Supply & Machinery Manufacturers' Association. Its seasonally-adjusted new order index fell 5 points to 194 (July 1948 = 100), the lowest level in 15 months.



CASE HISTORIES



Special high-temperature, full complement N/D ball bearing, made of cobalt base alloy, operates successfully at high temperature with no need for lubricant protection!

Photo: Courtesy Stratos Division, Fairchild Engine and Airplane Corp.

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NEW DEPARTURE
BALL BEARINGS
proved reliability you can build around

and specialty services, he notes. Products enjoying growth markets, he says, will take up a large part of the additional strip steel demand.

► **QUALITY CONTROL A MUST**—Bidders on recent contracts for 300,000 Army green coats have found an unusual stipulation in the advertisement. Suppliers that win awards must agree to establish and maintain a quality control system. This system must include written procedures that set forth a method for assuring control of quality through all phases of production and contract performance.

► **PROFITS HIT PLATEAU** — Profits have leveled off after an upsurge following the steel strike settlement, according to the latest quarterly financial report of the Securities and Exchange Commission. Average after-tax profit per \$1 of sales is currently 4.7¢ for all manufacturing corporations—a figure that isn't significantly different from the 1959 average. After-tax return on stockholders' equity is 9.8%, somewhat below the 1959 average.

► **COFFEE BREAK TIME**—Of the 66 million American workers, 43% have at least one cup of coffee daily during a coffee break. One out of every five of these employees makes his own coffee at work, says the Pan American Coffee Bureau.

► **JOBS FOR WOMEN**—The "weaker" sex is grabbing a larger proportion of the nation's jobs. The Department of Labor says that in the year ended March 31, 1959, eight out of every 10 workers added to the labor force were females. And it says that in 10 years, one out of every three jobholders will be a woman.

► **STEEL WAREHOUSES CUTTING PRICES**—Steel warehouse prices have been dropping recently in the Midwest and along both coasts. Reason: weak demand and large inventories.

► **THEY'RE CHEAPER, BUT**—Complaints are rising about the quality of foreign nails brought into this country. A number of Long Island lumber supply warehouses report that many customers are concerned because the imported nails bend too easily. Last year, 44% of all the nails sold in the United States were made abroad.

► **TIRE SHIPMENTS RISING**—More than six and a half million replacement passenger tires were shipped in April, says the Rubber Manufacturers Association. This marks the highest level since July 1950—when almost 6.9 million units were delivered. In the same month, 3.2 million tires were sold to automobile companies as original equipment.



Charles M. Brinckerhoff

QUOTE!.....

Charles Brinckerhoff, president of the Anaconda Co., named three factors that will govern the stability of the copper market for the next year: (1) the political situation and social problems in Africa, (2) the labor contracts that must be renegotiated later this year, and (3) the level of industrial activity in the United States and Europe. Mr. Brinckerhoff observed that, "Any of these factors can affect the balance of supply and demand—but only temporarily. If this balance is not further upset by copper consumers, through scare buying or maintenance of abnormally low inventories, the production capacity of the industry will effectively meet the problem of supply."

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96651—Extra heavy top-quality leather palm



956 Genuine horsehide palm heavy duty welder



43141J—Jumbo size Hot Mill



13011—8-oz. Canton flannel



28571A—18-oz. quilted double palm



95651—Leather palm, waterproof safety cuff



99652—Special tanned, green leather palm



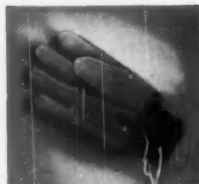
43121—Large size Hot Mill



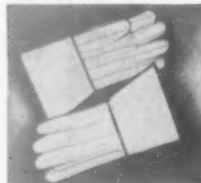
33011—Reversible, 8-oz. cotton flannel



28071—18-oz. quilted double palm



72031—Leather palm with knit wrist



21401A—22-oz., nap in, double palm



64-72051—Leather palm, red Mighty-Dot® back

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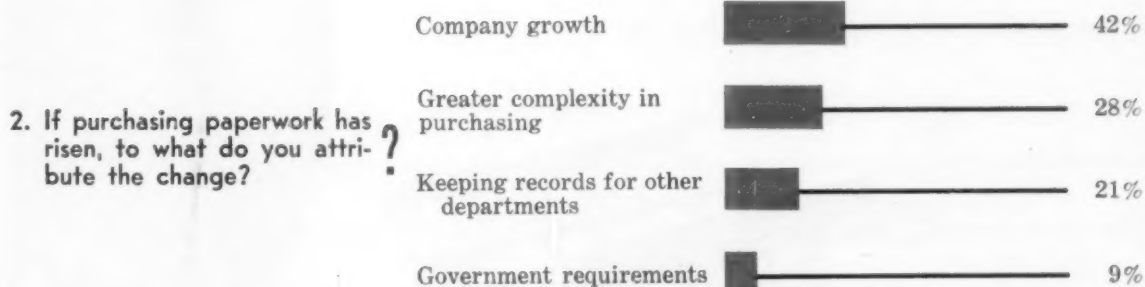
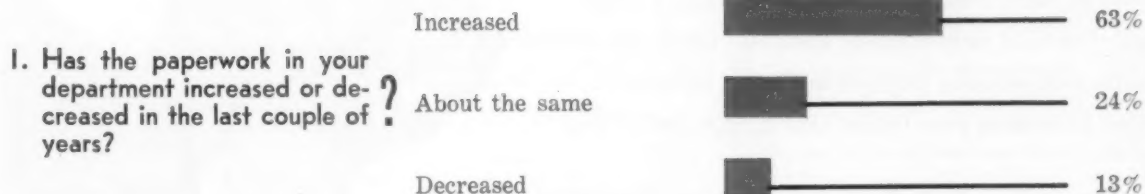
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PURCHASING OPINION

Purchasing Paperwork

Paperwork has been a long-time purchasing problem. It probably always will be. However, some companies have been fairly successful in keeping paperwork under control. To find out how the problem of purchasing paperwork is being approached, we surveyed a representative group of purchasing agents. Their combined answers follow:

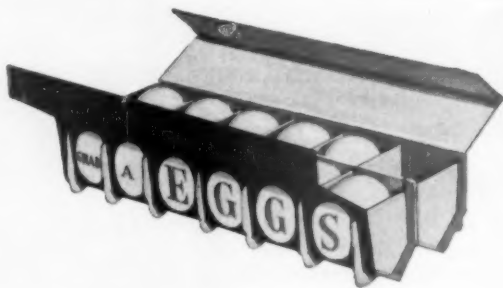


Planned Packaging moves merchandise

Ever play catch with an egg?

If you have, you'll appreciate the terrific protection job egg cartons perform. And they're marvels of packaging ingenuity, too! Just one quick pull on the flaps of this new Form-Fast carton and it snaps open, exposing seven partitions locked in place, ready to cradle a dozen eggs. A simple push closes and locks it again. Resultant filling line savings greatly reduced costs last year in the egg industry . . . helped hold down your family food budget, too!

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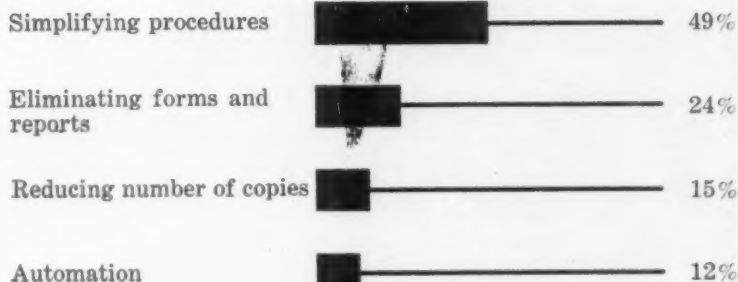
1632 CHICAGO AVENUE • EVANSTON, ILLINOIS

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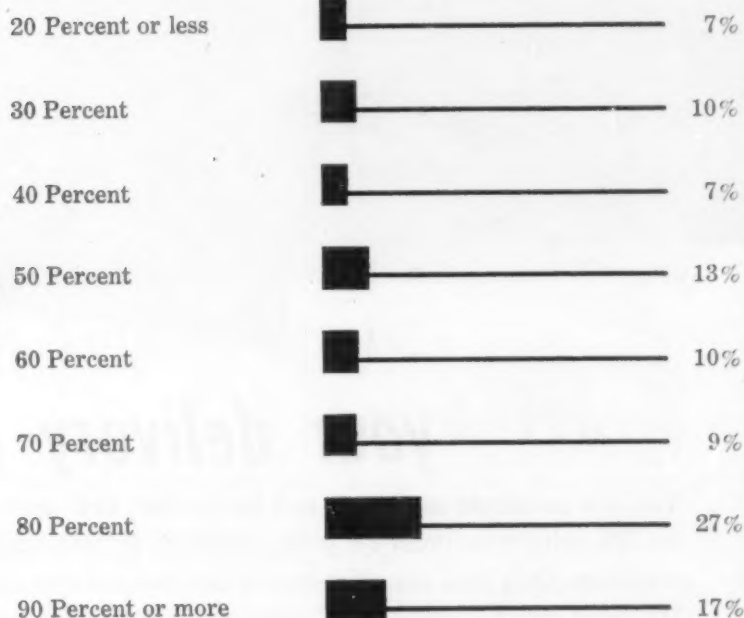
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Purchasing Opinion

4. If so, what methods did you use?



5. Approximately what percent of your paperwork is for day-to-day buying, as opposed to paperwork for control purposes, reports, and miscellaneous purposes?



6. Are you or your buyers now handling paperwork that could be done by additional clerical help?



7. Do you have any company-wide policy on reducing paperwork throughout all departments?





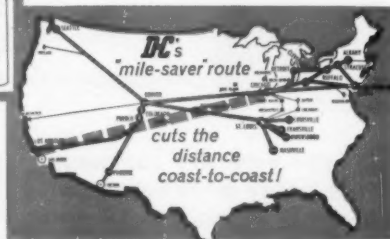
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Nickel Outlook: Ample Supply, Stable Prices

THE TENSE situation in Cuba today poses the biggest question mark in the Free World nickel supply picture.

Recent taxes imposed by Premier Fidel Castro's government have struck a heavy blow at American interests, which have invested millions of dollars in facilities to mine and process Cuba's lush deposits of nickel. Harsh mineral export laws have closed down Freeport Sulphur Co.'s new mining and processing facilities at Moa Bay and have rendered virtually inoperable the sprawling U.S. government-owned complex at Nicaro.

This removes, at least for the time being, 104 million pounds yearly of nickel capacity from the Free World market. That's because of a vague law passed late last year that calls for a 25% tax on the value of every pound of metal shipped from Cuba—to be computed at the highest world selling price at delivery time.

Because of this virtually confiscatory tax, Freeport was no longer able to obtain funds (previously arranged for) needed to complete construction and to attain full commercial production. So it suspended operations in early March. The company has \$75 million tied up in Cuban mines and a concentrating plant and an additional \$44 million in its Port Nickel, La., refinery—all of which are now closed down. Capacity of the operation was rated at 50 million pounds of nickel and 4.4 million pounds of cobalt annually.

Violates a Pact

Nicaró, which is being run by Nickel Processing Corp., a National Lead Co. affiliate, has refused to pay the tax, claiming it violates an agreement signed with the Batista government.

The Cubans have made no move to take over or "intervene" Nicaro, which is still producing on

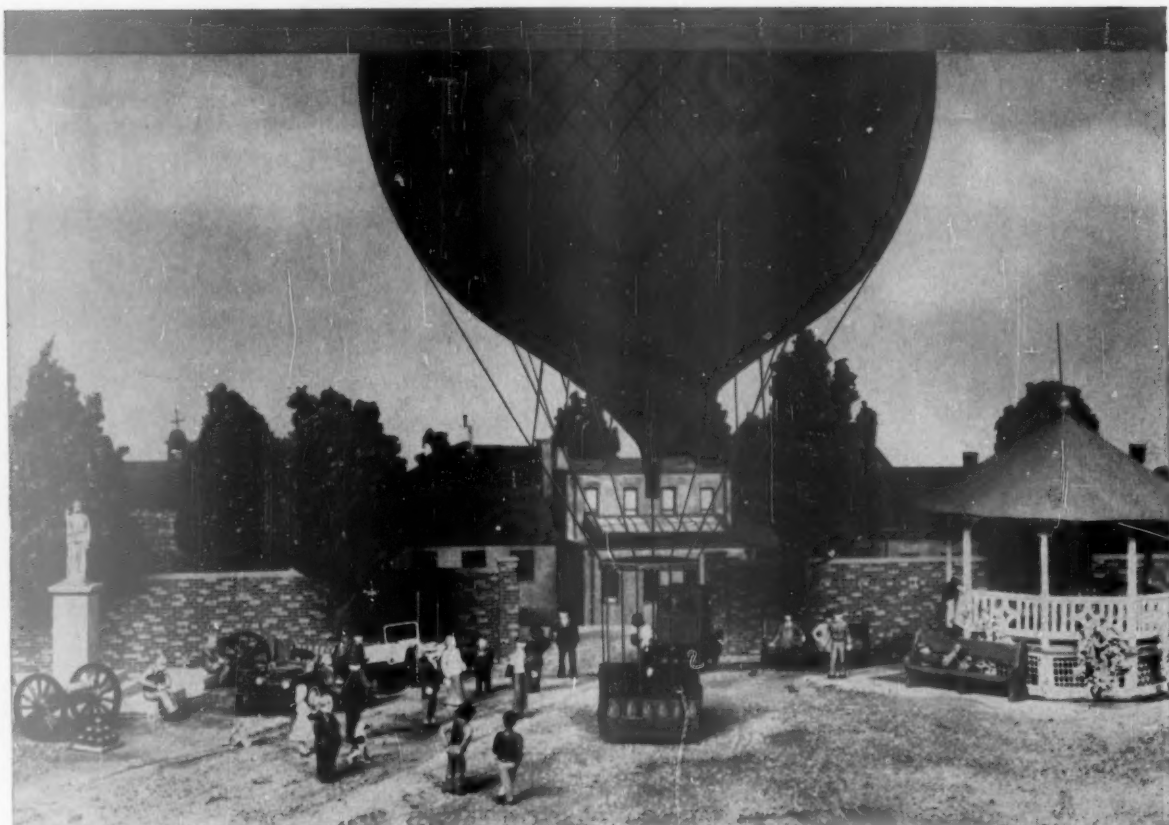
a limited scale. But they refuse to allow shipments of nickel to leave Cuba unless the new tax is paid.

Thus in May, a ship put into the dock at Nicaro but was denied permission to load. As in the past, the ship sailed away empty as U. S. officials steadfastly refuse to honor the new tax.

Built in 1942-1943, Nicaro represents an investment of around \$100 million. It has a capacity to produce annually 54 million pounds of nickel oxide sinter.

The eventual fate of both the Freeport and Nicaro facilities is uncertain. In recent months, there have been rumors that the Castro government would like to make a deal with the Soviet bloc—which is nickel short. In any event, steadily deteriorating U. S.-Cuban relations appear to rule out any early amicable settlement.

The supply picture is anything but black, though. The crux of



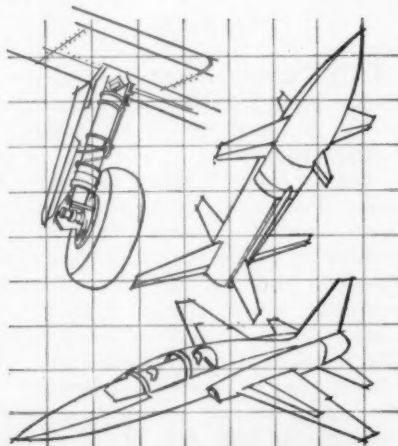
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Special Industry Report:

the whole situation as far as P.A.'s are concerned is that even without Cuban nickel, and even though consumption is rising, there will be plenty of nickel available. The Free World's capacity to produce is now just over 600 million lbs. and will rise to 665 million lbs. next year—more than double the capacity of 1951. Even if Cuban production is written off, the Free World will still have a capacity of 561 million pounds by the end of next year—120 million pounds more than record-breaking consumption in 1959.

Here's why the P.A. need have little fear of a nickel shortage in the foreseeable future:

- In the pine forests of northern Manitoba Province, International Nickel Co. of Canada Ltd. is set to begin production of its Thompson facilities early next year. The \$115 million complex will be at capacity operation of 75 million pounds of nickel a year by the end of 1961.

- Enough Nicaro nickel is in U. S. warehouses to last through the remainder of this year.

- Producers have large unsold

stocks, both market and premium price metal.

- Deliveries to the U. S. stockpile have been sharply reduced and will soon disappear entirely, meaning more metal for civilian users.

- Any pinch could be met by the release of some or all of the more than 100 million lbs. of electrolytic nickel from our government's Defense Production Act (DPA) inventory.

No one is more pleased about the adequate supply situation than the producers themselves. The nickel industry bounced back from the recession with a vengeance last year by posting record deliveries of 515 million lbs., while customers consumed an all-time record of 420 million lbs. Previous highs were 489 million pounds and 415 million pounds, respectively, set in 1957.

It looks like 1960 will be at least as good as last year, perhaps a little better. Producers term first half business "good" to "excellent", particularly when they're talking about sales to European customers. A step-up in U. S. buying is expected in the fourth

quarter, when a rise in the general level of business could coincide with an easing of heavy inventory depletion by customers.

Part of nickel's good showing can be attributed to a shift in the philosophy of nickel suppliers. For the industry has shot from a production- to a marketing-oriented group almost overnight.

For a decade and a half there had been a nickel shortage brought on by World War II. The shortage was fostered by the post-war boom and Uncle Sam's decision to build up a strategic stockpile when the Korean War began.

Suddenly stockpile needs were cut, new mines came in, and a business recession socked the U. S. With a favorable supply situation for the first time in years, the industry had to encourage new uses and win back purchasing agents who had switched to other materials in the time of shortage.

To do this the industry has flooded the country with salesmen, pushed product promotion and advertising, stepped up engineering assistance, expanded market studies, and boosted research and development to find new and improved products.

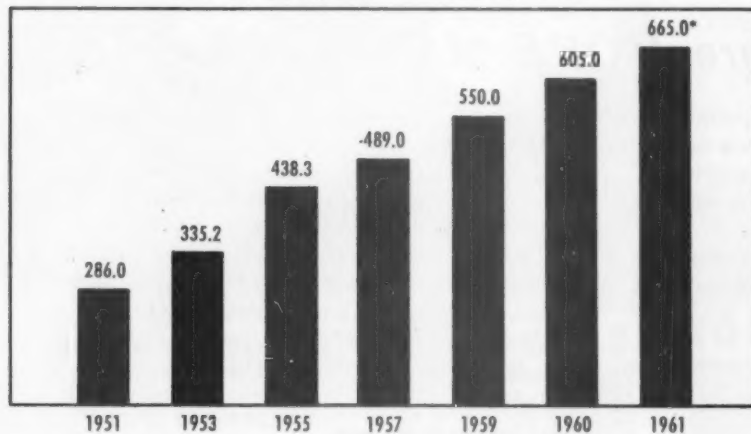
Nickel prices haven't moved since December 1956 and producers make no secret of their intention to keep them at current level in 1960. But in January, 1961, labor costs go up. While the industry hasn't dropped any hints about what it will do then, odds are there won't be a price increase. The industry's whole philosophy right now is to stimulate demand—and they know price hikes won't do that.

Nickel suppliers have decided to keep supply ahead of demand from now on. This means new deposits will be opened up as soon as forecasts indicate their need.

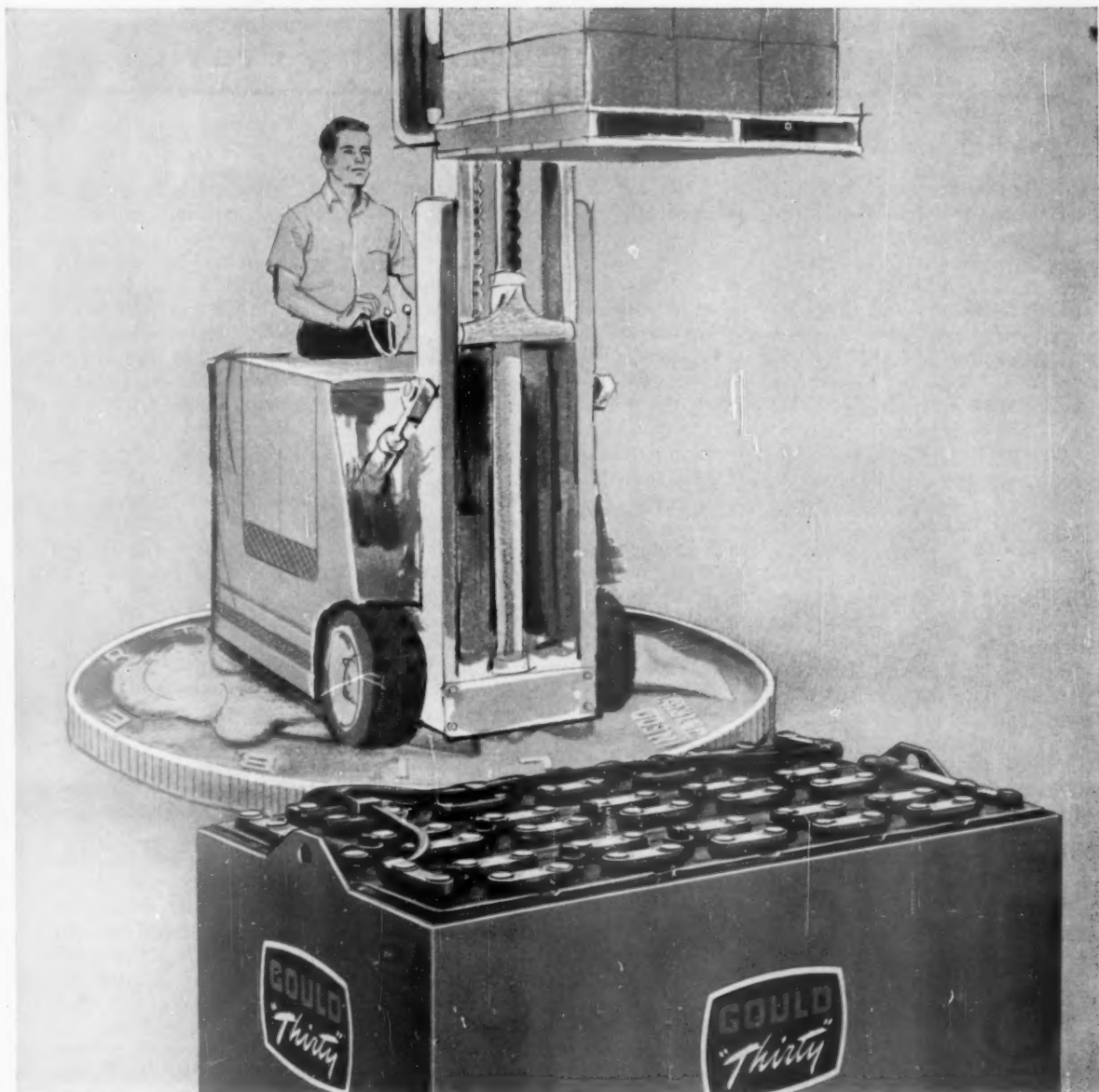
If this course is followed, P.A.'s can look forward to adequate supplies and stable prices for the foreseeable future.

Twice As Much Nickel As A Decade Ago

(Free World capacity in millions of pounds)



*Figure includes both Nicaro and Freeport properties in Cuba, with a combined total capacity of 104 million lbs. annually.



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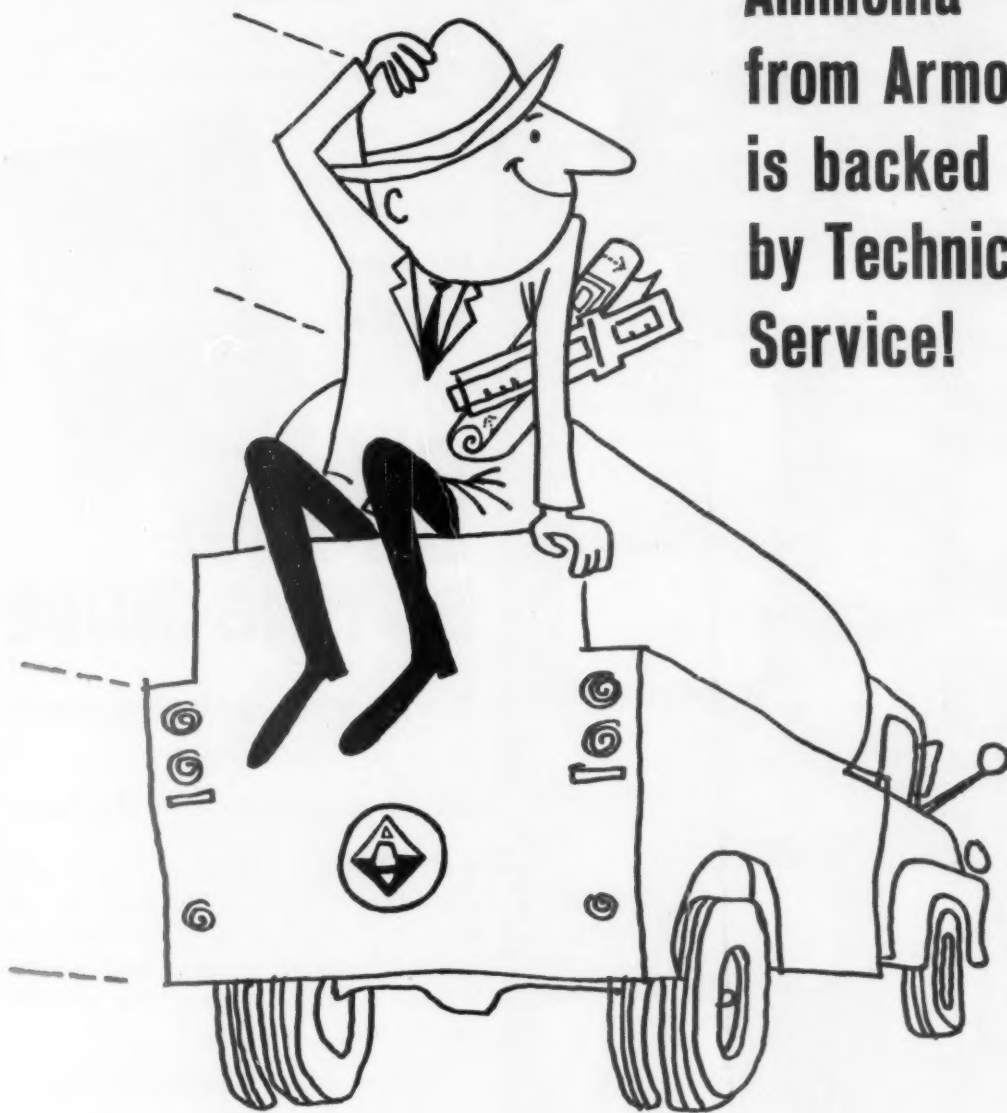
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Douglas Charges Defense Dept. With Billion Dollar Buying Waste

DEPARTMENT of Defense officials are investigating charges made by Senator Paul H. Douglas (D-Ill.) that the military services are wasting two to three billion dollars each year through faulty buying.

The charges by the former professor of economics are not new. He has made them before, while criticizing what he considers the military's excessive reliance on buying by negotiated contract.

What brought the issue to a head was the Senator's listing of 10 procurement items, for which he claims the Armed services greatly overpaid.

Using the 10 items as a buying chamber of horrors, Senator Douglas went into specific detail on each.

Item No. 1 was a cable with a plug at each end, used to plug in an operator's headset. The cost to the military was \$10.67. The Senator claims that a small electronics vendor paid \$1.50 for a similar unit.

Item No. 2 was a small wrench set with case which the Army bought at \$29. Senator Douglas claimed that this could be purchased at a Washington, D.C., auto supply house for \$3.89.

Item No. 3 was a small lamp socket which the Senator said cost the government \$21.10 per piece. He declared that an electronics retail stores owner said it was worth 25¢ per piece.

Item No. 4 was an electric delay line which the Illinois Senator claimed was bought by the Air Force at a cost of \$250. He noted

that a retail seller of similar equipment valued it at \$40 per unit at retail—and \$25 if bought in wholesale lots.

Item No. 5 exhibited by Senator Douglas was a small blower which he described as a simple unit, but which cost the government \$50.

Item No. 6 was an aluminum gage block bought by the Air Force for \$10. The Senator claimed that a reasonable price for a much better gage block would be \$2.

Item No. 7 was three steel locating plugs for which the Air Force was charged \$11 per piece. Senator Douglas told Congress that a private appraiser fixed the value at between 25¢ and 50¢ per piece.

Item No. 8 consisted of four small transfer punches for which the military paid \$32.75. The Senator claimed that they were worth closer to \$1.

Item No. 9 was eight small drill bushings bought by the Air Force for \$77.25 and valued at several dollars by a "machine shop appraiser."

Item no. 10 was an assortment of small wrenches which cost the Army \$1.84 per piece. Senator Douglas claimed they were only worth 25¢ at most.

Many observers here feel that Senator Douglas' approach was not scientific. But he has raised questions which the military will have to answer on an item-by-item basis.

The charge—by other Senators and Representatives as well as

Senator Douglas—is that the military is paying excessive prices under its contracting system. Unless the Defense Department can come up with a satisfactory answer to these charges, Congressional pressures to curb negotiated buying will certainly increase.

● 1959 Productivity Gains Were Substantial

Productivity gains were substantial last year, compared with the recession year of 1958. Industrial production stepped up sharply while factory employment lagged, thus indicating that output per man hour increased.

A big factor in improving productivity was the increased utilization of plant and equipment leading to a higher rate of output per machine—which means greater output per man-hour.

A Department of Labor unit, which keeps tab on productivity trends, points out that the trend last year was similar to past periods of recovery from recession.

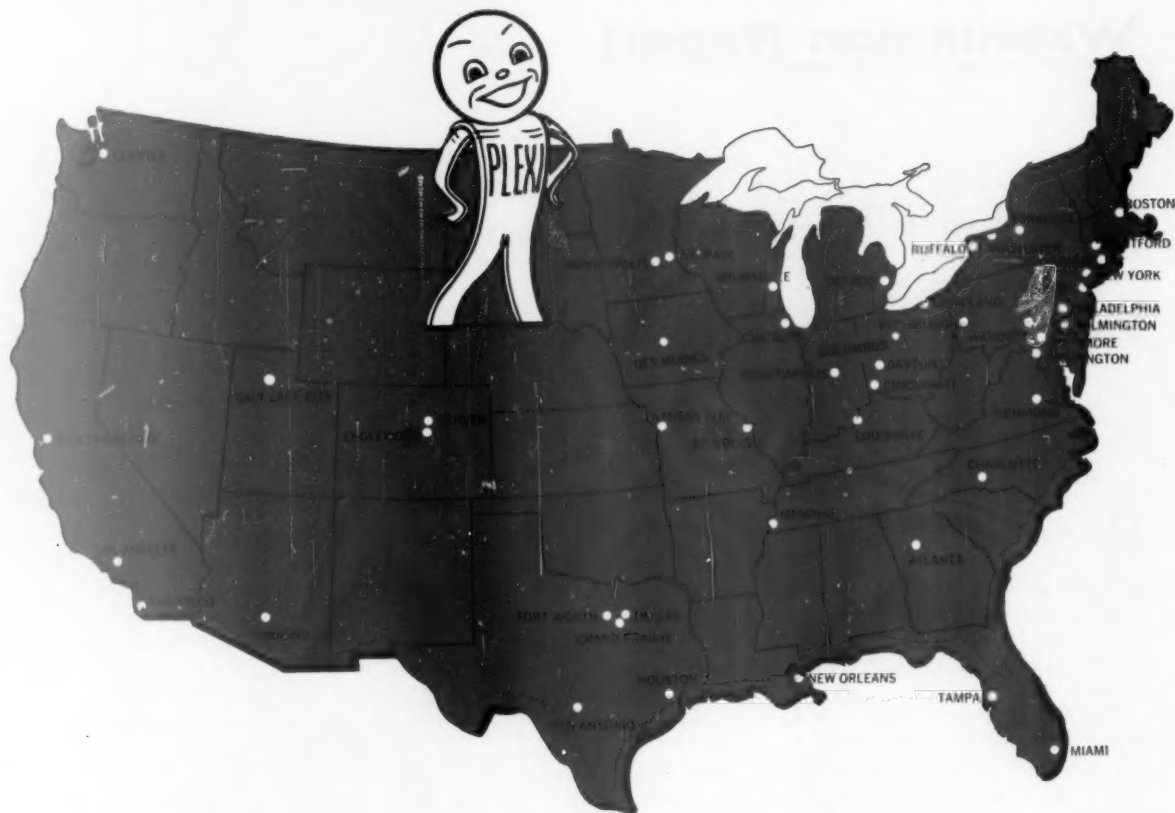
No Rise in Employment

The gross national product this year is forecast at \$510 billion. Nevertheless, the level of unemployment is at five million plus—and factory employment has shown no upward trend. Job totals have been dropping in durable goods industries, where at best there will be some stabilization in the months ahead.

[There has been an increase in the number of jobs on a seasonal basis, however, with the construction and food processing industries stepping up their work load.]

While 1959 represented a year of sharp pickup from the recession levels of 1958, the trend this year has not been as pronounced. This means that there has been, and will continue to be, considerable unused industrial capacity—as shown by the recent drop in the rate of steel output.

(Please turn to page 23)

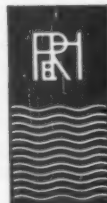


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Washington Report

Companies will seek to offset this trend by concentrating production in their most efficient plants. This will have the effect of keeping the rate of production high in the most efficient units, those with low unit costs.

Specifically, the Labor Department studies show that the overall productivity increase in 1959 over the previous year was 4%. This just about equals the increase in 1955 over 1954—the previous recovery cycle.

The rate of increase last year topped the long term rate of productivity increase of 3% a year.

● Japanese Steelmakers Cleared of 'Dumping'

Following a complaint by American steel producers, the Treasury Department recently investigated charges of "dumping" in the United States by Japanese steelmakers.

The Japanese companies were charged with selling material in this country at prices less than those in effect at home. However, the Treasury found that this was not true. U. S. importers were not paying a lower price for steel than wholesale buyers were paying in Japan.

Investigating Complaints

According to federal law, the Treasury Department is empowered to investigate complaints of "dumping." Whenever it finds evidence of such practices, it has the authority to turn the data over to the Tariff Commission for action.

The ruling in the Japanese steel case has been eagerly awaited by Bureau of Customs officials. For now they can make a final assessment of import duties on steel brought into the United States since December.

There have been some recent instances, however, of foreign "dumping". In one case, Treasury agents found that some Canadian manufacturers were selling a certain chemical here at a lower price than they were charging in Canada.

● Cheaper Money Won't Cause Inventory Rise

Cheaper money will not influence purchasing agent decisions on inventory accumulation, if past history is any indication. While the cuts in interest rates make it less expensive to hold inventory, money costs have not been a factor in such buying during recent periods.

Federal Reserve System analysts point out that lower interest rates make it cheaper to hold inventory. In addition, with money easier to get, there is less pressure to liquidate inventory to obtain funds.

In recent business cycles, large-scale inventory buying has been set off by fear of inflation, imminent war, or anticipation that an impending strike will cut off supply.

In an inflationary period, there is little danger in buying ahead. The present outlook, however, is for continued price stability. Even with wages moving ahead, improved productivity should offset these higher costs.

There is increasing talk that the steel industry—faced with a 9¢-an-hour wage increase in December—will not be able to pass the increase along in the form of higher steel prices. The deterrent here is the buildup in capacity of foreign steel producers, who will be looking to the United States as an outlet for their surplus materials.

The stock market in recent weeks has completely ignored the possibility that war may be imminent. As one government spokesman put it, "I hope they're right."

As far as strike threats are concerned, the wage patterns for basic materials industry have been set. Thus no industry-wide work stoppages leading to material shortages are predicted.

This makes normal market considerations the predominant factor in company inventory policy. Money costs are cheaper, but there is no inducement to speculate.

—A. N. Weckslar

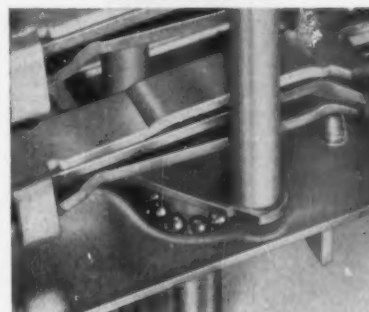
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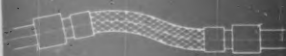


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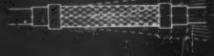
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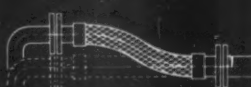
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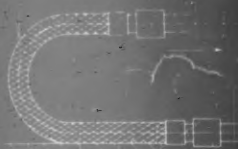
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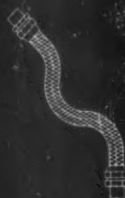
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Purchasing Follow-up

N.A.P.A. Steel Buyers See Stocks Leveling

Inventories of steel users "are approaching normal," according to the latest steel market report of the National Association of Purchasing Agents.

Twenty-five per cent of the P.A.'s surveyed report that their steel inventories are larger than normal. In April, on the other hand, 65% noted larger-than-normal steel stocks.

"The majority of metalworking purchasing managers see no appreciable pickup in the demand for steel until August or September," says A. G. Ruediger, director of purchases of Carrier Corporation and chairman of the N.A.P.A. steel committee. This month should mark the low for steel production, he notes, influenced by vacations and preparations for automobile model changeovers.

The report says that "no mill price change is expected." It also states that "imported steel is expected to remain at about four million tons for 1960, which is near the 4.4 million tons imported in 1959."

Says Ruediger: "Current assumption of steel purchasing people is that there may be no price increase in steel if the new process of Ford for producing steel proves to be satisfactory. There may even be reason to expect a price reduction as the new Ford process

is reported to increase the yield of raw steel 100%."

Some mill bookings are showing improvement on a selective product basis, he says. "Sheet and plate mills are overshipping orders in most areas. In some, they are requesting authority to ship additional quantities produced beyond what the order called for originally."

In the Midwest, says Ruediger, "mills are resisting cancellation or moving back of tonnage." And in the East, some purchasing agents "have cancelled some tonnages originally scheduled for May and June delivery."

The overall consensus: Steel inventories should be balanced by September.

Move Express Shipments On 'Busback' Trailers

A new technique for moving material in containers, "busback", has been introduced by Railway Express Agency.

The containers—compact, 1½-ton capacity semi-trailers—are hauled behind regularly scheduled intercity passenger buses. At the originating and destination bus stations, the trailers are pulled by trucks to and from the local express terminals. Shipments are handled there for local delivery.

"Busback" takes its place along with "piggyback", "fishyback", and "birdyback" in the growing

trend towards containerization. Material is packed into containers at the supplier's plant and is not removed until arrival at the P.A.'s plant—whether it travels by land, sea, or air.

Service Will Expand

The first "busback" express service has been inaugurated on a daily basis in cooperation with Continental Trailways. Deliveries are being made on the 136-mile run between Joplin, Mo. and Harrison, Ark.

Similar express line-haul service behind buses is expected to begin shortly between other points, says Railway Express. The trailers—which are 8 ft long, 7 ft wide, and 5 ft high—can be loaded easily and quickly through two doors, located in the rear and on the right side.

The trailers are called Flexible VLs. They were manufactured by the Flexible Company, Loundonville, Ohio.

Value Analysis: Basic and Applied

The division of value analysis into two types—basic and applied—has been called for by Rod H. Sears, director of procurement of Scott Paper Company.

Sears notes that basic value analysis "is fundamentally a search for facts limited in its scope only by the need to disclose and organize the facts so that they can lead us to better values and lower cost procurement for the business." Applied value analysis, he says, "is the more direct, detailed effort to enhance value and reduce costs."

Among the concerns of basic V. A., Sears says, are: general economic matters, surveys of supplier markets, market conditions, locations of sources of supply, order quantities, methods of payment, methods of shipment, make or buy studies, inventory policy, timing of commitments, alternate



One of the latest developments in the transportation revolution is "busback", introduced by Railway Express Agency. Compact one-and-a-half-ton semi-trailers are hauled behind regularly scheduled intercity passenger buses.

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JULY 4, 1960

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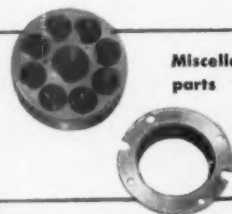
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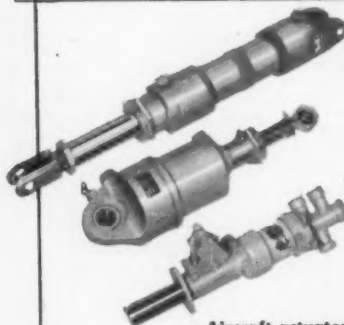
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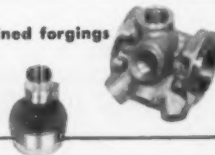


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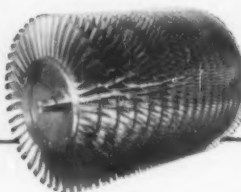


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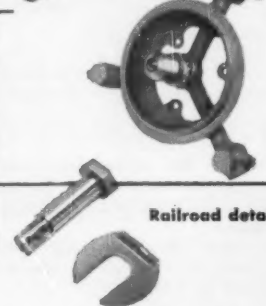
Machined forgings



Fuel nozzles



Jet blades, rotors



Railroad details

Purchasing Follow-up

or new materials, equipment and services, cost analysis, and legal requirements.

On the other hand, applied V.A. usually comprises re-engineering or re-designing components, he notes.

"Many businesses would be well advised to thoroughly appraise their procurement function to assure that it is properly organized for breadth and depth," Sears says. "It should be adequately staffed to allow time for value analysis, both basic and applied."

Synthetic Rubber Use In U.S. Increasing

Use of synthetic rubber in the United States continues to rise, says J. W. Keener, president of B. F. Goodrich Company.

Keener says that 1960 synthetic consumption should hit a level of 1,120,000 tons. This would be a 4.5% increase from the previous record of 1,071,000 tons set last year.

"Man-made rubber got its greatest impetus as a wartime replacement for natural rubber, then unavailable," he says. "But continued improvement has made it superior to natural tree rubber in many products, most importantly passenger car tires."

The American synthetic rubber plants were purchased by private industry on April 29, 1955. Since then, 4,728,302 tons have been consumed within the United States.

According to Keener, 67.4% of all new rubber used in the U. S. this year will be synthetic rubber. The reasons for this, he believes, are:

- (1) New and improved man-made rubber
- (2) Improved technology in producing and compounding synthetics for products
- (3) High prices for natural rubber

Keener feels that natural rubber usage this year will probably decline. This drop will be in the range of 1% to 2%, he says.

For More Information about ad on facing page
←Write No. 169 on Place Mark Card—Page 32
JULY 4, 1960

Record Number of Cases Brought Before NLRB

A record number of cases were brought before the National Labor Relations Board in fiscal 1959, according to its 24th annual report to Congress.

A total of 21,633 unfair labor practices cases, representation election cases, and requests for union shop deauthorization polls were carried to the NLRB. This is 29% more than the 16,748 cases considered in fiscal 1958.

Principally, the increase came from a substantial rise in unfair labor practice charges. There was also a rise in representation cases involving petitions for collective bargaining elections.

Of the 12,239 unfair labor practice charges filed, 11,465 were brought to conclusion. This includes decisions, settlements, withdrawals, and dismissals.

For the second consecutive year, the majority of unfair labor practice charges before the NLRB were filed by individuals, rather than by employers and labor organizations. The individuals' share of the total was 59%.

Most of the unfair labor practice charges, from all sources, were directed against employers. Charges against employers totaled 8266, while charges against labor organizations numbered 3862.

In the field of representation cases, unions won majority decisions in 62% of the elections. During the previous fiscal year, the percentage was just about the same.

As a result of the record workload, the five-member Board and the General Counsel had to step up their activities in all phases of case handling. For instance, more complaints in unfair practice cases were issued by the General Counsel than ever before—a total of 2101.

During the year, 3698 hearings of all types were held. And there were more elections for union representation than in any year since 1954.

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They are new only in the production sense. Actually this announcement was preceded by long development and research which drew on more than 90 years of experience in instrument and valve making.

The net result is a valve that combines instrument-precision with the ruggedness that distinguishes all Marsh Valve Specialties!

Despite their small size, "Master-mite" Solenoid Valves are more rugged because the "beef" is where it counts—in the valve body. The generous, moisture-resistant coils do not overheat. Entire assembly is leak-tight at pressures up to 540 psi. Operation is positive... yet quiet. Valves can be cleaned without breaking connections... can be used in any position.

Bodies are available in either brass bar stock or 18-8 stainless steel. All parts in contact with media are stainless steel. Down to the last detail, "Master-mite" solenoid valves are designed and built to stand up and work right under the toughest conditions including vibration. They are Underwriters' approved for use on oxygen and hydrogen and as safety valves.

Read the accompanying specifications. Note the wide range of selection. Ask for bulletin containing all details.

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- ★ **Sizes:** 1/8" and 1/4" NPT.
- ★ **Pressures:** From vacuum to 540 psi. maximum.
- ★ **Orifice sizes:** Ten sizes: 3/64", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 1/4".
- ★ **Voltages:** Standard with 115 volts 50/60 cycle AC coils, but also available in 12, 24, 208, 230 and 460V, 50/60 cycle coils.
- ★ **Leads:** Standard with 18", but other lengths available; also full range of connectors.
- ★ **Body:** Brass bar stock or 18-8 stainless steel.
- ★ **Moving parts:** All stainless steel.
- ★ **Seat disc:** Synthetic rubber.
- ★ **Approved by Underwriters' Laboratories as a safety valve.**

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There are Federated solders of every type for every purpose. Some are standard in composition and form, some are unique. All are distinguished for their superior performance assured by the most rigid production controls. Castomatic solders, for example, are machine cast by an exclusive process that eliminates harmful oxides, produces a bar solder that's dross-free, fine grained, with no hard spots, voids, or soft spots. Every Castomatic bar of a given analysis melts at the same temperature, guaranteeing trouble free operations. Federated also supplies solders to meet specialized industrial techniques. Use coupon below to write for Bulletin No. 131, which lists a full description of all Federated solders. Or call Federated Metals Division, American Smelting and Refining Company, 120 Broadway, New York 5, REctor 2-9500, or your nearest Federated sales office.

AMERICAN SMELTING AND REFINING COMPANY

SARCO

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BOSTON 16, MASS. Liberty 2-0797	PORTLAND 9, OREGON Capitol 7-1404
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LOS ANGELES 23, CALIF. Angelus 8-4291	IN CANADA: Federated Metals Canada, Ltd. Toronto, Ont. 1110
MILWAUKEE 10, WIS. Hilltop 5-7430	Birchmount Rd. Scarborough, Phone: Plymouth 73246
MINNEAPOLIS, MINN. Tuxedo 1-4109	Montreal, P.Q. 1400 Norman St., Lechine, Phone: Metrose 7-3591
NEWARK, NEW JERSEY Newark: Mitchell 3-0500	

FEDERATED METALS DIVISION

Federated Metals Division
American Smelting and Refining Company
120 Broadway, New York 5, N. Y.

Please send me Bulletin No. 131, "Federated Solders."

Name

Company

Address

City State

Information For Your Catalog Files

COIL PRODUCTS

A 28-page catalog describing a line of coil products. Gives detailed electrical and physical specifications on over 600 units—plus application information. Features 79 schematics covering every coil type in general use.

General Standard Transformer Corporation

Write No. 1 on Place Mark Card—Page 32

CYLINDERS

Bulletin No. SQ-3-60 covers T-J Squair Head air and hydraulic cylinders. The 16-page catalog gives technical information on available bore sizes, rod dimensions, and allowable strokes.

Tomkins-Johnson Co.

Write No. 2 on Place Mark Card—Page 32

ELECTRON BEAM WELDING

A 12-page illustrated catalog on electron beam welding. Covers salient features, method of operation, principal advantages, and required equipment. Includes a schematic of the electron beam gun.

Air Reduction Company, Inc.

Write No. 3 on Place Mark Card—Page 32

FILTERS

An illustrated brochure offering technical data on eight standard size electroplating filters. Contains a specification table on all models, with capacities from 200 to 10,000 gallons per hour.

Udylite Corporation

Write No. 4 on Place Mark Card—Page 32

GRINDING WHEELS

Form No. 1724 describes the uses of grinding wheels for welding. In addition to the text, photographs, tables, and a price supplement are included.

Norton Company

Write No. 5 on Place Mark Card—Page 32

MICA PRODUCTS

Catalog 26 covers technical information on a line of mica products. The 24-page bulletin includes NEMA specifications for manufactured mica sheets and wrappers. Also contains data on grading, classifying, types, and properties.

Insulation Manufacturers Corporation

Write No. 6 on Place Mark Card—Page 32

MOTORS

A 56-page illustrated catalog on ac multi-shielded motors. Includes pricing and dimensional data on motors ranging from ¼ to 200 hp. Has a section dealing with selection and application.

Sterling Electric Motors, Inc.

Write No. 7 on Place Mark Card—Page 32

PRESSURE REGULATORS

Catalog J160-1 describes and illustrates sliding gate pressure regulators. The eight-page bulletin describes self-operated, pilot-operated, solenoid-operated, and back pressure regulators. Includes features, cutaway drawings, sizing charts, flow curve, sample specifications, and engineering information.

OPW-Jordan

Write No. 8 on Place Mark Card—Page 32

STEEL PIPE

Bulletin No. 509 describes uses of welded steel pipe. The 18-page catalog illustrates 20 different applications, a continuous weld process, and tests. Includes six pages of specification tables for three weights of ½ in. to 12 in. pipe and couplings in black and galvanized.

National Supply Company

Write No. 9 on Place Mark Card—Page 32

V-BELTS

Catalog #260 covers a line of industrial V-belts, including Cog-Belt, Poly-V, and fractional horsepower types. The 52-page bulletin gives data on sizes, dimensions, and prices. Also includes information on industrial hoses and sheaves.

Dayco Corporation

Write No. 10 on Place Mark Card—Page 32

VALVES

A 28-page bulletin on liquid relief and special service safety-relief valves. Catalog FE-138 contains sizing information, capacity tables, weights, dimensions, and application data. Also includes descriptions of steam traps, test equipment, and fuel economizers.

Farris Engineering Corporation

Write No. 11 on Place Mark Card—Page 32

WORK GLOVES

A catalog describing and illustrating styles and fabrics of safety work gloves. Includes double-quilted, double-palm, and chore types.

Advance Glove Manufacturing Company

Write No. 12 on Place Mark Card—Page 32



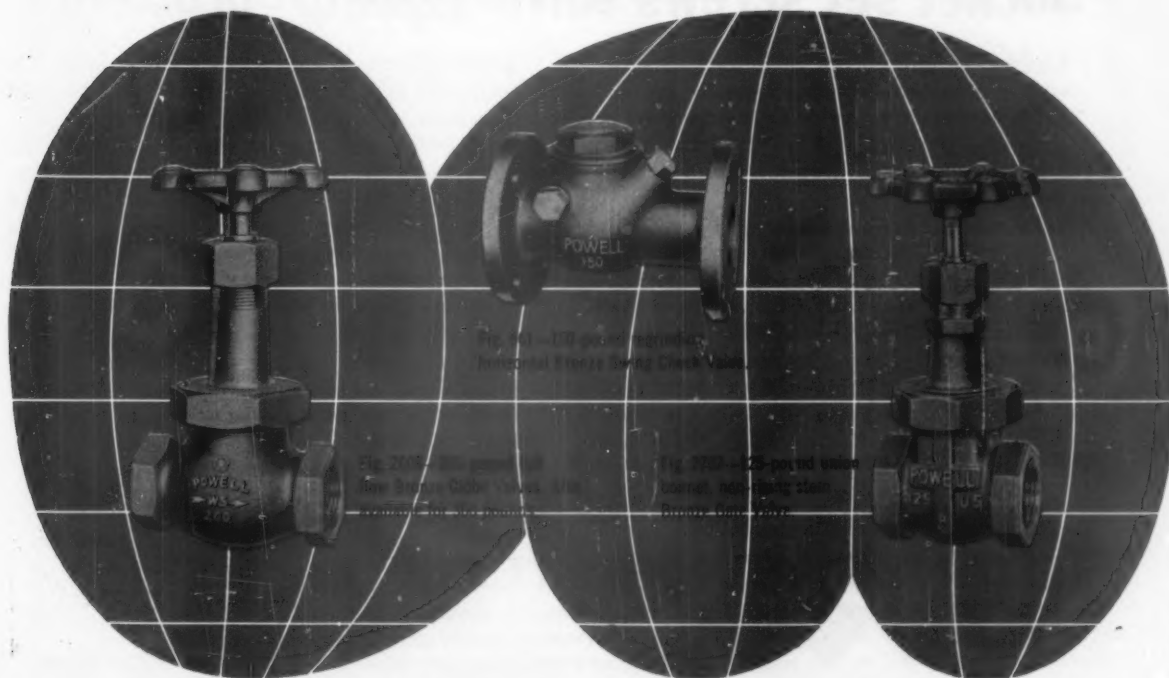
performance that makes a world of difference

BRONZE—Ancient symbol of greatness and strength—is still one of the basic materials used by Powell in the manufacture of quality valves for modern industry. Also—Powell offers a complete line of iron, steel and corrosion-resistant valves—all types—in all popular

sizes—to satisfactorily take care of every one of your flow control requirements.

For the full details, on Powell bronze and other valves, check your Powell valve distributor—or write directly to us for illustrated literature.

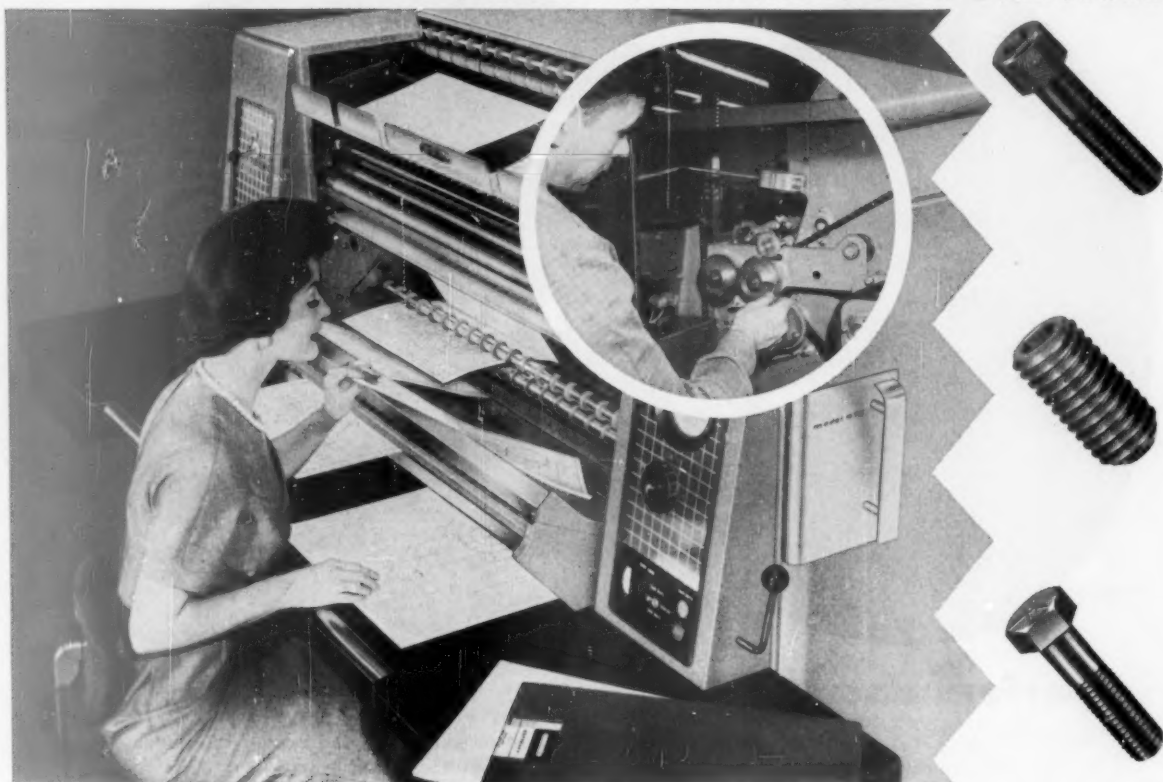
Powell . . . world's largest family of valves



THE WM. POWELL COMPANY • DEPENDABLE VALVES SINCE 1846 • CINCINNATI 22, OHIO

For More Information Write No. 172 on Place Mark Card—Page 32

IT PAYS TO STANDARDIZE ON STANSCREW



Stanscrew suggests... **BRUNING** verifies... Socket set screws solve *Copyflex* problem

Charles Bruning, Inc., manufacturers of the widely accepted Copyflex, recently found that the fasteners they were using to attach the unit's sprockets and gears did not meet the rigid performance standards they set up for all component parts.

Bruning's distributor arranged a visit from a Stanscrew specialist, who recommended Stanscrew's regular socket set screws. Bruning verified their operational efficiency with exhaustive laboratory and engineering tests . . . made the conversion . . . and eliminated the loosening problem (plus eliminating many service calls).

Now, 100 Stanscrew fasteners are specified for each Model 675 Copyflex. In addition to

socket set screws, they include socket head, hex head, and fillister head cap screws which are used in a wide variety of critical applications.

Like Bruning, more and more industrial leaders are learning it pays to standardize on Stanscrew. Their more than 5,500 different standard fasteners provide economical answers to the overwhelming majority of all industrial requirements . . . and are produced to consistent quality standards which eliminate production problems and lower assembly costs.

The Stanscrew fastener specialist may be able to help you cut fastener costs. Your Stanscrew distributor will be happy to arrange a prompt visit. Call him today.



FASTENERS

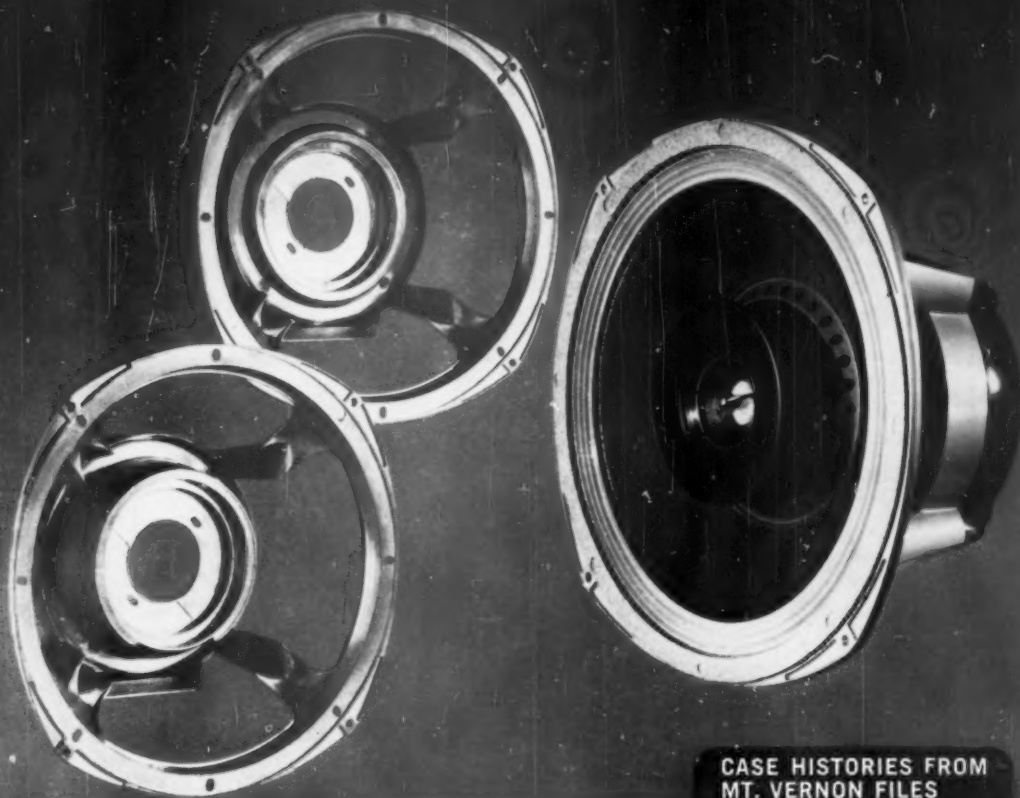
CHICAGO | THE CHICAGO SCREW COMPANY, BELLWOOD, ILLINOIS

HMS | HARTFORD MACHINE SCREW COMPANY, HARTFORD, CONNECTICUT

WESTERN | THE WESTERN AUTOMATIC MACHINE SCREW COMPANY, ELYRIA, OHIO

STANDARD SCREW COMPANY 2701 Washington Boulevard, Bellwood, Illinois

For More Information Write No. 173 on Place Mark Card—Page 32



CASE HISTORIES FROM
MT. VERNON FILES

From 1 Mt. Vernon Die... 2 Castings...7 University Speakers

This University* Loud Speaker basket won first prize in the New Jersey Zinc Company "Lighter Than You Think" Die Casting Contest. It is one of two castings used to produce all seven new University wide range Series 200 speakers.

The basket weighs only 2 lbs. 12 ozs; measures 13" across corners; is 4 $\frac{5}{8}$ " deep and has a minimum wall thickness of .040". It is a one-piece, non-magnetic zinc casting that provides perfect rigidity for the entire structure assuring life-long stability and reliability. Furthermore, its narrow struts offer a minimum of reflecting surfaces, thus avoiding unwanted peaks and valleys in the frequency response of the speakers.

University engineers, thoroughly familiar with inherent advantages of die casting, design for maximum effectiveness of the art. The result

...an ingenious Mt. Vernon die with *interchangeable cores enabling them to cast two modified baskets from one die*. And because they have been working with Mt. Vernon for many many years, they dare to try the unconventional approach knowing full well that they can always depend on Mt. Vernon to follow through.

You may not be trying to win prizes... just aiming for lower production costs. In that case we can show you how it can be done with die castings. Just call your nearest M.V. Sales Representative for quick action.

*University Loudspeakers, Inc., White Plains, N. Y.



MT. VERNON DIE CASTING CORPORATION
STAMFORD, CONNECTICUT

SALES REPRESENTATIVES



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CLEVELAND, OHIO: Mr. Grant Eller, 6 East 194th St.

GUILDERLAND, N. Y.: Mr. David H. King, 75 Willow St.

PITTSBURGH, PA.: Mr. Andrew W. Anderson, 300 Pasadena Drive So.

BRAINTREE, MASS.: Mr. E. W. Libby, 607 Washington St.

ROCHESTER, N. Y.: Mr. William Sauters, 101 Briarcliff Rd.

SKANEATELES, N. Y.: Mr. Jerome J. Theobald, 9 E. Genesee St.

STAMFORD, CONN.: Mr. Anker Anderson, Cascade Road

VALLEY FORGE, PA.: Mr. G. T. McMaster, P.O. Box 115

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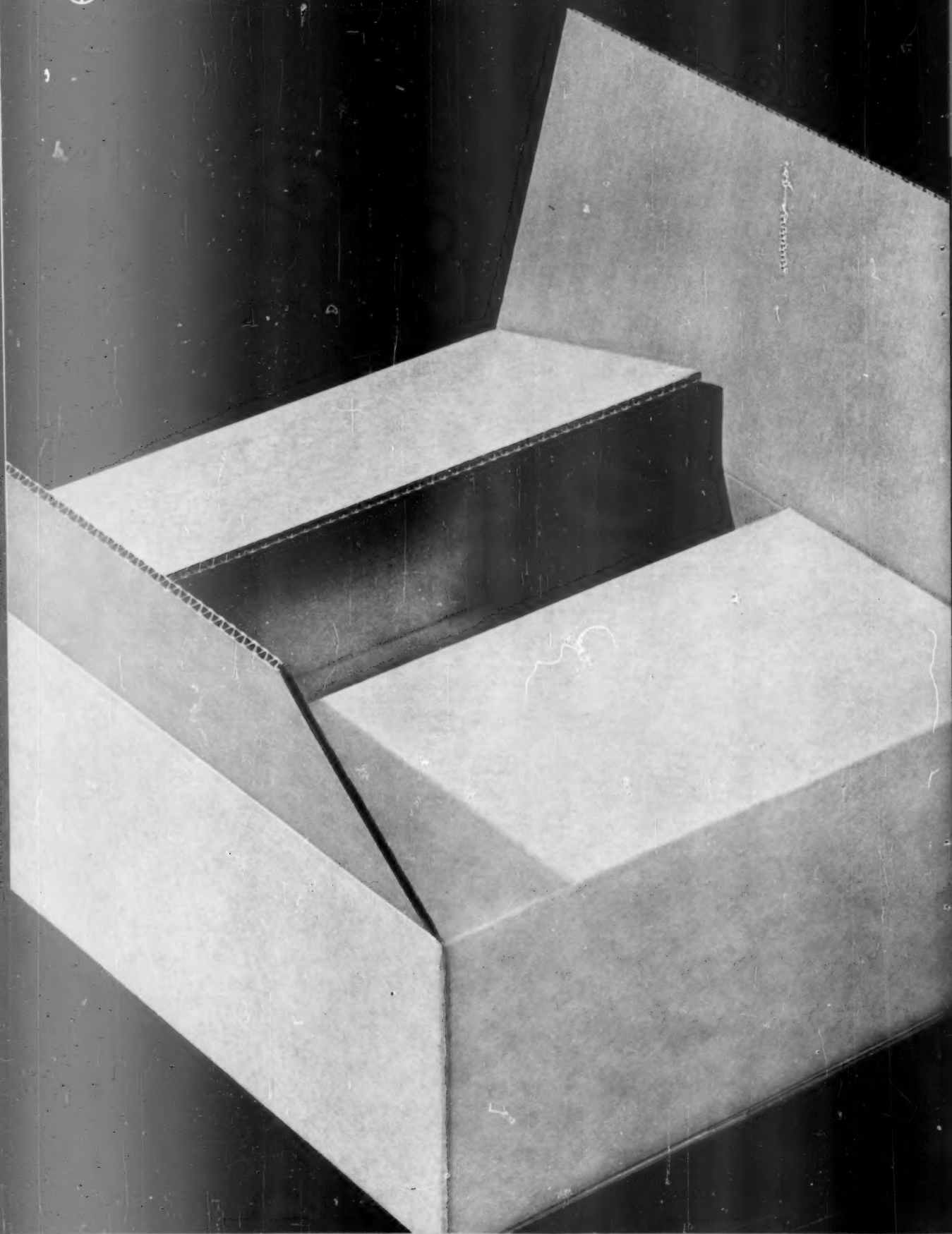
JULY 4, 1960

For More Information about ad on following
page Write No. 175 on Place Mark Card—pg. 32→

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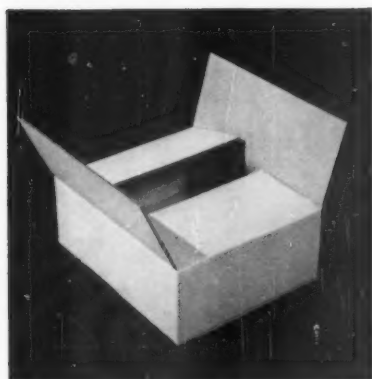


INTERNATIONAL PAPER—The Ultimate Source



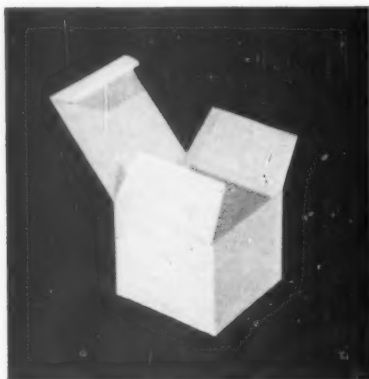
The International Paper Guide to Packaging—1960

(From International Paper's 16 mills and research centers come these pace-setting packaging developments)



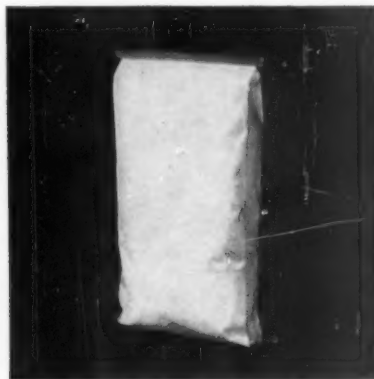
1. GOLDKRAFT® LINERBOARD. Amazing new corrugating liner with a second color built right in. Made of rugged Gator-Hide® kraft. New Goldkraft saves manufacturers the cost and time of an extra over-all color printing.

•T.M.



2. IPX® BOARD. Now a truly outstanding printing surface and a fresh, light interior are combined in an economical packaging board. Made from fine bleached sulphate pulps and inexpensive groundwood pulps.

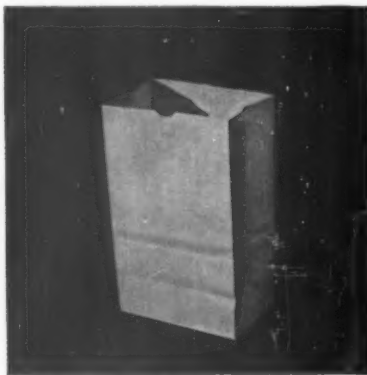
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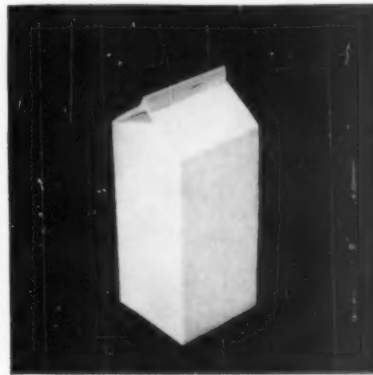
3. MULTIWALL BAGS. Hy-poly kraft set new standards in moisture protection. Extensive tests (90% relative humidity at 100° F. for two weeks) proved this. Hy-poly saves money over medium and low-density poly-coated bags.



4. INDUSTRIAL PAPERS. The latest addition to our complete line of strong papers is amazing *bleached Gator-Hide Extensible Kraft*. Provides built-in stretch for extra strength. Ideal for multiwall bags and many other uses.



5. PAPER BAGS. In 1960, International Paper offers a full range of paper bags. Grocery, bakery, shopping, and scores of specialty bags. All made of strong Gator-Hide—the world's most widely used kraft paper.



6. MILK CONTAINERS. Pure-Pak® containers are still another example of International Paper's ability to offer the widest range of packaging papers, boards and assistance in the industry. Call us for all your packaging needs.

© 1960 Cell-O Corp.



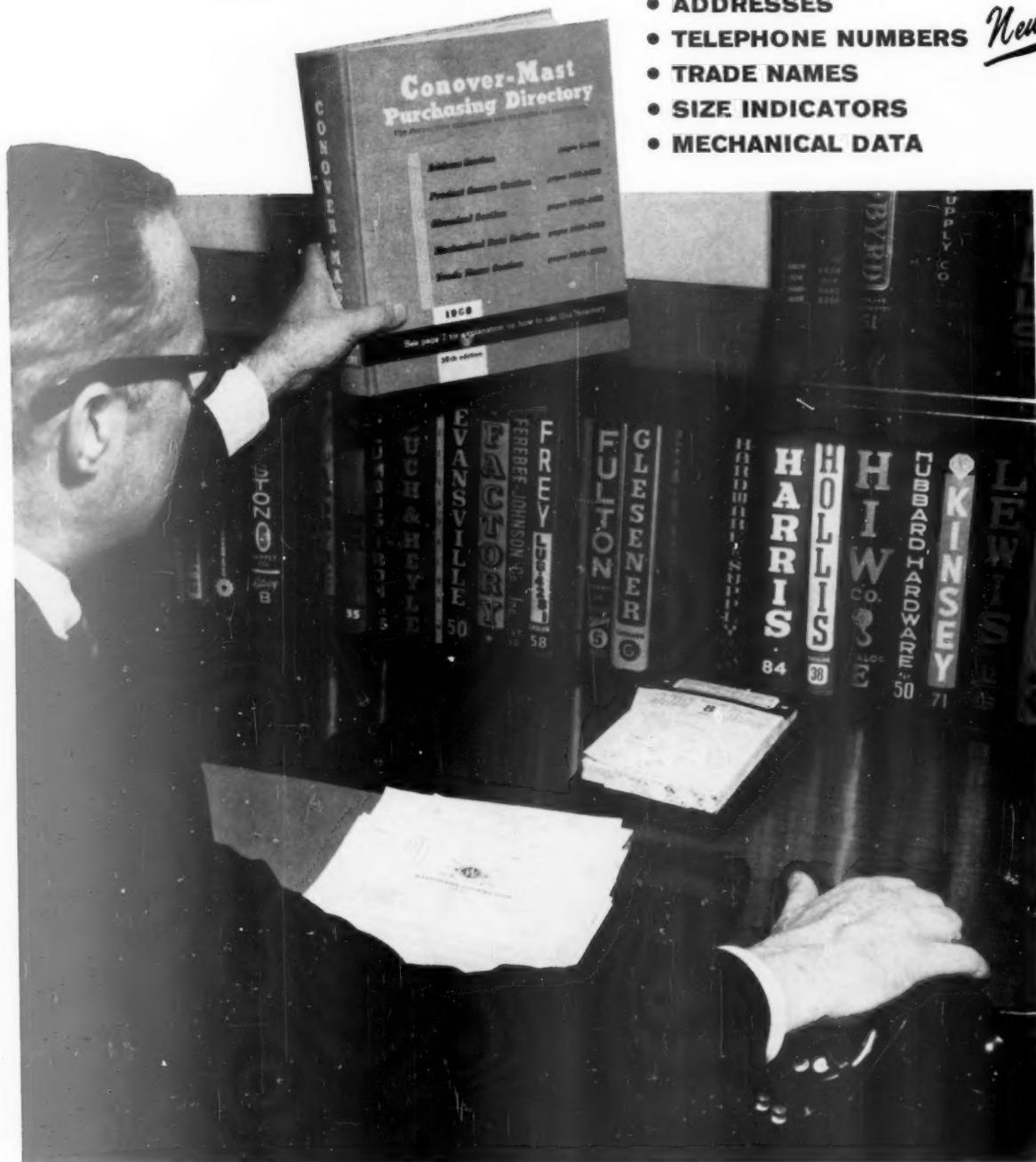
INTERNATIONAL PAPER New York 17, N. Y.

Manufacturers of papers for magazines, books and newspapers • papers for home and office use • converting papers • papers and paperboards for packaging • shipping containers • folding cartons • milk containers • multiwall bags • grocery and specialty bags and sacks • pulps for industry • lumber, plywood and other building materials

ONE handy directory for

- PRODUCT SOURCES
- ADDRESSES
- TELEPHONE NUMBERS
- TRADE NAMES
- SIZE INDICATORS
- MECHANICAL DATA

New



Conover-Mast Purchasing Directory can be kept right at your desk

Because C-MPD is designed for industrial buying it is compact...yet complete. And now you can use it for checking telephone numbers of companies that sell to industry. Never before has so much information been put into *one volume* for industrial Purchasing Agents.

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205 E. 42nd Street • New York 17, N. Y.

Murray Hill 9-3250

When you buy Timken® bearings you are investing in a better bearing value for today and in the future

HAVE you had occasion to compare the sizes of Timken® tapered roller bearings used in modern automobiles and trucks with those used 10 or 25 years ago?

Today's cars and trucks are a lot more powerful, a lot heavier and a lot more dependable, yet the bearings are smaller and more economical. That's possible because the Timken Company has found ways to pack more capacity into less

space . . . by developing better bearing steels, better design proportions, new ways to produce precision geometry and by investing in long term fatigue research.

Underlying developments of this kind is the philosophy of the Timken Company—*Service*. Not just institutional service to industry, but service on an individual basis. The on-the-spot bearing service that only a thoroughly trained Timken Company engineer can give.

Timken Company salesmen are graduate engineers—able and eager to give on-the-spot professional assistance to help you build the most serviceable, the most reliable, the most saleable machines.

This dynamic partnership with industry has enabled the Timken Company to become the world's largest manufacturer of tapered roller bearings with an enviable reputation for product excellence, pioneering of new applications and bearing industry leadership. It explains in part why Timken bearings are preferred by your engineers.

An important share of every Timken bearing sales dollar is plowed back into better research, testing and production facilities. This impatience with just "good enough" is why practically every major tapered roller bearing development has come from The Timken Roller Bearing Company. Invest more of your bearing dollars with the leader—it will repay you in better products that cost less.

The Timken Roller Bearing Company • Canton 6, Ohio



**"I figure we're
saving 25%
on charts!"**

"By using only GC Recording Charts, we buy quality charts at the lowest prices and save plenty more in time and clerical work."

You save three ways when you standardize on GC Recording Charts.

1. Efficient production by the world's largest chart specialists makes possible lower prices.

2. Periodic shipments get you the charts you need, when you need them. At the same time you place only one order—get the bulk price.

3. Additional savings in time and clerical work are yours because you deal with only one salesman and write only one order instead of many.

As for quality, you can count implicitly on GC just as over 5,000 users are already doing.

GC maintains a catalog selection of over 15,000 different types of circular, strip and rectangular recording charts. Custom production orders receive prompt, expert attention. Write for Stock List and samples.



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GRAPHIC CONTROLS CORPORATION
Buffalo 10, New York

For More Information Write No. 177
on Place Mark Card—Page 32

Letters To The Editor

PURCHASING EDUCATION

Dear Sir:

Your magazine has excellent articles which are helpful in the performance of purchasing duties, as well as giving us ideas to improve our department.

At the present time I am preparing a thesis for an M.S. degree in economics and management. The thesis is based on industrial purchasing and its application at our company. Articles from your magazine are most helpful in this regard.

If you have any literature that might be used in the preparation of this thesis it would be greatly appreciated. For your information, the third edition of Stuart Heinritz' book, *Purchasing Principles and Applications*, has also proved to be most beneficial.

C. L. Johnson,
Purchasing Agent
Thomas & Skinner, Inc.
Indianapolis, Indiana

• We are always delighted to learn that our efforts are of value. Some additional material from our permanent editorial file has been loaned to Mr. Johnson.

FROM HEADQUARTERS

Dear Sir:

In spite of being enmeshed in a 1001 preconvention details, I had to take a few moments to express my thanks for the May 9, 1960 issue of *PURCHASING Magazine* which contained "A Tribute to N.A.P.A."

It is, in effect, a tribute to your own very fine publication for, in the 45 years of our close association, it has kept pace with the increasing stature of N.A.P.A. and the profession of purchasing.

You may well be proud of the excellent editorial record which has been established over the preceding years—a record which we anticipate will be maintained through the years ahead.

G. W. Howard Ahl
Secretary-Treasurer
National Association of
Purchasing Agents
New York, New York

WHICH END IS UP

Dear Sir:

I know Ford is good. I read your May 23 article. But the Falcon on page 52 is really going downhill—not taking "the steep hill . . . with ease."

Might be a good thing to write up when the printer can't tell the front from the back of the car.

Otherwise, I thought your issue excellent.

James F. McHale
Arlington, Virginia

• Mr. McHale was kind to place the blame for this error on the printer instead of where it rightfully belongs—on the editors.

CLERICAL COSTS

Dear Sir:

In the April 25 issue of *PURCHASING Magazine*, reference is made to Office Manning Controls in the article "How to Cut Clerical Costs" by L. O. Sweval. A copy of the fifty charts would be most useful. It would be appreciated if you could let us know where they can be purchased.

V. Thomas
Canadian Chemical Company Ltd.
Edmonton, Alberta

• The 50 charts mentioned in the article are the property of Mr. Sweval's firm, *Profit Counselors, Inc.* They are used first with a pilot program in the department being studied. Then if the client desires to proceed further, the consulting firm will turn over copies of the charts for continuing use. You can contact *Profit Counselors Inc.* at 355 Lexington Avenue, New York, N. Y.

BOUQUETS TO THE ARTIST

Dear Sir

Enjoyed your April 25 issue. I thought the front cover was especially attractive—my compliments to the artist.

P. J. Shire, P. A.
Chilton Company
Phila., Penna.

America's modern way of doing business



The NASA-USAF-Navy X-15 manned rocket gets a vital part . . . delivered with jet-age speed by AIR EXPRESS

X-15 part flies first 3000 miles by Air Express

The scene: Edwards Air Force Base, Calif. Crack engineers work 'round the clock to ready the X-15 for its flight to the brink of outer space. Its engine, built by Thiokol in Denville, New Jersey, packs a 400,000 HP punch—more than the power of two giant ocean liners! Because of an accelerated assembly schedule, some parts—like this turbine pump control—are installed right on the flight line. They must be shipped fast, with kid-glove handling. In short, a job for low-cost AIR EXPRESS. Give your business these advantages, too. Call AIR EXPRESS to speed your products **FIRST TO MARKET . . . FIRST TO SELL.**

 **AIR EXPRESS** 



CALL AIR EXPRESS DIVISION OF RAILWAY EXPRESS AGENCY • GETS THERE FIRST VIA U. S. SCHEDULED AIRLINES

JULY 4, 1960

For More Information Write No. 178 on Place Mark Card—Page 32

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Purchasing People In The News

H. W. "Chris" Christensen, who retired as assistant to executive vice president, **United States Steel Corporation's Columbia Geneva Division**, has been appointed executive vice president—commercial of **Fischbach and Moore Incorporated**, New York City. As part of his wide background of experience as both a sales and purchasing executive, Mr. Christensen directed the procurement



H. W. Christensen

and contracting of materials, equipment and construction involving expenditures totaling over one billion dollars. He has been associated with the U. S. Steel Corporation's western operations and predecessor companies since 1920. He is widely known as a former president of the National Association of Purchasing Agents (1952-1953) and twice served as vice president and six years as a member of its Executive Committee. He is also a past president of both the Purchasing Agents Association of Los Angeles and Northern California. He was the 1959 recipient of the J. Shipman Gold Medal Award.

W. L. Thompson, manager of supplier relations for **Westinghouse Electric Corporation**, Pittsburgh, Pennsylvania has concluded a 47-year career with the company. He will continue his career as an independent consultant in the areas of purchasing and trade relations. Mr. Thompson started with the company at the

East Pittsburgh works in 1913. He was successively an expeditor, buyer and supervisory buyer before his appointment as assistant purchasing agent for the steam division at Lester, Pa. He served in that capacity from 1920 to 1930. For the next 24 years, until 1954, Mr. Thompson was purchasing agent for the steam division, as well as for the Newark, N. J. works, merchant marine works, and aviation gas turbine division. Since 1954, he has been manager of supplier relations for the headquarters purchasing department. In 1943, he was awarded the Westinghouse Order of Merit, highest honor given by the company, for his outstanding work in purchasing at the steam division. Mr. Thompson has been chairman of a committee for the Pennsylvania Economy League to study the purchasing organization, policies and practices of the City of Philadelphia. He was president of the Purchasing Agents Association of Philadelphia, initiating the group's nationally known educational program. Also, he has served as a director of the National Association of Purchasing Agents.

The Brewer-Titchener Corporation, Cortland, N. Y., has announced the appointment of **A. Willard Hoffman** as vice-president



A. Willard Hoffman

for purchasing. He moves up to the post from director of pur-

chases. He has been with the company for over 40 years. He began with the Crandal-Stone Division in Binghamton, N. Y., in accounting and production planning. Mr. Hoffman is a former national director of the National Association of Purchasing Agents, and a past president of the Central New York Purchasing Agents.

John A. Roebling's Sons Division, The Colorado Fuel and Iron Corporation, Trenton, N. J., has named **Kinsey S. Dickel** purchasing agent and **J. G. Hottinger** assistant purchasing agent. Mr.



J. G. Hottinger



K. S. Dickel

Dickel, formerly assistant director of purchases, has been with Roebling for 33 years. He is a member of the Purchasing Agents Association of Philadelphia, and is a past president and director of the Purchasing Agents Club of Trenton. He is a graduate of Rider College. Mr. Hottinger, a veteran of 43 years with the Roebling Division, was a buyer in the purchasing department. He attended Rider College and Temple and Rutgers Universities. A member of the Purchasing Agents Club of Trenton, he served as a director during 1958-59.

Promotion of **John S. Sneed** to purchasing agent at **Waste King Corporation**, Los Angeles, Calif. has been announced. He joined the company in 1954 as a buyer in its manufacturing division. He later was made purchasing agent for disposers, and then disposers production control supervisor. Mr. Sneed holds a degree in business administration from Glendale, Calif., College, and also studied at the University of Southern California.



**your product's
reputation and sales...
can go down hill fast**

... if nuts keep coming loose

Suppose you were your own customer, and bought the product *you* make. You'd expect it to stand up to the job, whether it was a racing cart, a heavy-duty crawler, or a crusher. You'd want it to endure the bumps and thumps and constant vibration of rugged use without coming unstuck at the bolts. If a nut came loose and made you lose time or production, you'd certainly think twice about buying that product again.

This is precisely why so many of America's leading manufacturers have guaranteed the reliability of critical bolted connections on their products with Elastic Stop® nuts.

They know that a product's reputation for dependability is built in the field and they know that reorders are written in customers' maintenance records. They've verified through field experience that in the long run

Elastic Stop nuts pay their own way because the exclusive nylon locking inserts keep them from working loose... even under the most punishing conditions of shock, impact or vibration! Elastic Stop nuts are the equivalent of "free" insurance against fastener failure for *their* product!

Whether your product sells for three dollars or for thousands, we think you'll be interested in a copy of the hex nut catalog No. 706. It details the regular, thin, heavy and light hex types in USS and SAE thread series and various materials and finishes; plus many dimensional "specials".

ESNA's complete line may change many of *your* "special" requirements into standard parts. Write Dept. S52-715, Elastic Stop Nut Corporation of America, 2330 Vauxhall Road, Union, New Jersey.



for the ring  of reliability

ELASTIC STOP NUT CORPORATION OF AMERICA

Odd shapes ...and all sizes with Hindley Cotter Pins



Many unusual cotter pin shapes in hard to get metals are stock items with Hindley. Uniform precision manufacture pays off in faster assembly. Write for folder.

Hindley
Since 1897

Hindley Manufacturing Co., Cumberland, R. I.
Wire Hardware - Cotter Pins - Plumbing Specialties

For More Information Write No. 180
on Place Mark Card—Page 32

FOB—"fillosophy of buying"

OUR FAVORITE company president of the month: D. B. Jenks of the Chicago, Rock Island & Pacific Railroad Company. "Those in charge of purchasing," he said recently, "can, according to their efficiency or lack of it, make a telling contribution to the company's profit, or loss. . . . Without the purchasing officer's being recognized on the same executive level as the chiefs of engineering and production, management will find itself limping along as inefficiently as one of our old-time compound locomotives with a simple engineer."

Mr. Jenks' comments received some fine publicity in the June 2 *Chicago Daily News*.

WE CAN'T QUITE make up our minds about the recent trend toward dignifying titles or descriptions. On the one hand it appears that some people deliberately try to obscure the truth by fancying up a simple, understandable designation.

Take the title of that wonderful

old fellow who took care of the school. Who ever heard of a kid trying to escape the clutches of a custodian or a sanitation engineer after scrawling some crude message on the school basement wall? In our day, you just hoped John the janitor didn't catch you and box your ears.

On the other hand, even a janitor's work has dignity and if he feels he is demeaned by the implications of the word it is simple justice to call him something else—even the highfalutin' custodian or sanitation engineer. Even in our own bailiwick there has been agitation to substitute "purchasing executive" for the more prosaic "purchasing agent." The word agent to some means a lackey.

All this comes to mind as we read a release from the 47-year old National Association of Waste Material Dealers. Hereafter the group will be known as the National Association of Secondary Material Industries. To those of us who can remember the friendly junkman, his horse and wagon and bell, this marks the end of a



WHO WAS THAT LADY I saw you with? In response to many inquiries about the attractive member of the Purchasing Magazine staff at the recent N.A.P.A. convention in Los Angeles we present, more or less by remote control, Miss Eva Hokanson of Sweden. The thoughtful, fatherly looking chap on the left is the magazine's editor, pondering probably why everybody who works for him couldn't look like that.

simpler, kindlier era. Oh well, why should we ask scrap dealers to act like second class citizens and ride around in wagons? They've got just as much right as anyone to call themselves Secondary Material Specialists and ride around in Cadillacs.

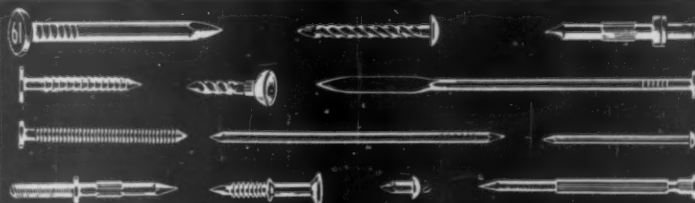
THERE'S JUST as much confusion around here about international affairs as there is everywhere else, we suppose. So we feel just as qualified as anyone else to make our own profound analysis of what's going on inside Russia. And just to be different, we discern a happy note! In a recent picture of Premier Khrushchev sounding off in the Kremlin about something or other, a woman is shown a row or two in back of him. Is she a scowling Rebuilder of Society who looks as though she wants to bring the toiling masses the joys of peace and democracy if she has to kill them to do it? Is she a Liberator of Womanhood who herself has forsworn the capitalistic fripperies of the beauty parlor, etc. for a pasty face and a severe hairdo? No, no, no! This gal is almost smiling! She has a permanent (or at least has let a natural wave assert itself.) She's wearing lipstick! These are the things that indicate big changes in the course of history, not the rantings and ravings of politicians.

This has nothing at all to do with purchasing, of course. But it's more cheerful than most stuff you've been reading about Russia, isn't it?



"Could you give me the names of some soft-hearted purchasing agents?"

JULY 4, 1960



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possibilities are available when you come to Hassall for design assistance and quotation on challenging, difficult or unusual nails, rivets, threaded parts, drive screws and other cold headed parts. Short or long runs, pilot quantities, engineering counsel, over 100 years of intimate association with cold heading—and a deep appreciation for the concept of value analysis—all are part of the Hassall service to you.

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Remet Powdered Metal Part

cuts
DESIGN
and
MACHINING
costs

for Bonney Forge and Tool Works



R. L. Huston, Chief Engineer for Bonney, says, "We went to a powdered metal part on our shifter because the cost of machining this part from steel would have been prohibitive. Also, we would have had to change the entire design of our ratchet. We contacted no less than a dozen fabricators of powdered metal. Reese Metal Products Corp. was the only establishment able or interested in tackling this problem with us."

Bonney now uses Remet shifters in seven of their ratchets. The sintered Remet parts are copper infiltrated iron.

More and more design and production men each year rely on Remet services to help solve problems.

FREE BROCHURE "How to Cut Precision Parts Cost with the Remet Powdered Metal Process" shows how the Reese Corp. can help you. Send for your copy today.



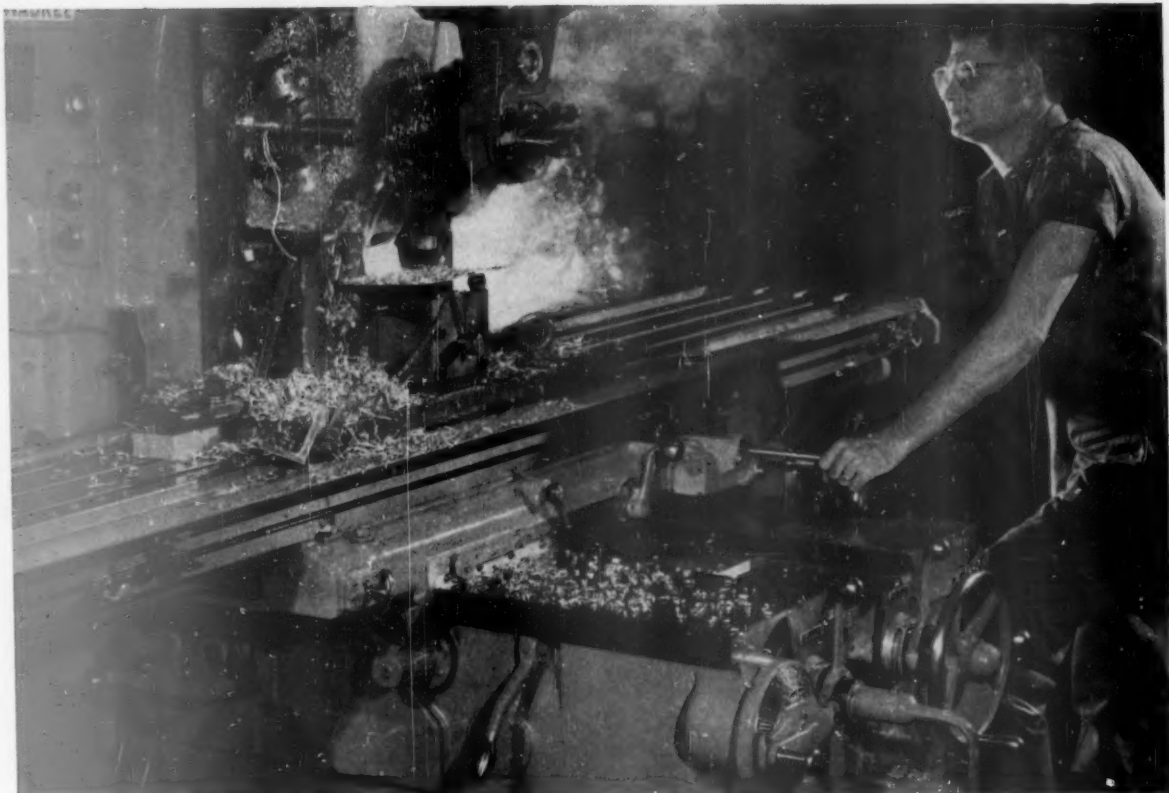
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REESE METAL PRODUCTS CORPORATION

537 Howard Ave., Lancaster 13, Penna.

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"Oilless" Bearings • Bushings • Machine and Structural Parts in
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STEEL • NICKEL SILVER • COPPER
INFILTRATED IRON**



As this heavy-duty milling machine makes a high-speed cut, vital components of AISI 4340 and 4620 nickel alloy steels provide strength and wear-resistance, help maintain precision tolerances.

Two nickel alloy steels...4340 and 4620... give this machine sustained cutting accuracy

Here's how two general-purpose steels used by Kearney & Trecker in their heavy duty TF series milling machine have helped that company maintain its famous high-performance standards:

The spindle is made of AISI 4340 nickel alloy steel. This through-hardening steel is quenched and tempered to develop good fatigue strength and high tensile strength with a minimum of distortion. Spindles of 4340 steel resist torsional stresses and wear while maintaining straightness at every running speed.

Gears are precision-cut and wide-


faced. They are made of AISI 4620 general-purpose carburizing steel. These gears are carburized and hardened to 58-62 Rockwell "C". What's more, AISI 4620 nickel alloy steel has a tough core to withstand shock loading.

This report is typical of the many coming in from manufacturers who have employed the two General Purpose Steels for a variety of machinery components.

Available right off the shelf from your local Steel Service Center, AISI 4340 and 4620 offer you a two-fisted way to cut costs and still

satisfy the majority of your engineering requirements. Other standard nickel-containing steels — providing particular combinations of properties — are also available from your Steel Service Center for your remaining needs.

Consider nickel alloy steels for gears, shafts, bearings and other machine parts you design, order or use. And any time you require engineering information to help you select the right material for your application, write to INCO, outlining your problem. We will be glad to help.

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NICKEL MAKES ALLOYS PERFORM BETTER LONGER

In Purchasing...



TAKE a purchasing department that handles 70,000 requisitions and 60,000 purchase orders a year covering 120,000 items and you have a lot of paperwork. Add the many reports that are necessary on that part of the operation that involves government contracts and you've got an operation that cries for mechanization to keep profits from being eaten up by clerical costs. The answer for Kearfott, a division of General Precision, Inc., was an integrated data processing system that covers every purchasable item from pencils to precision-engineered equipment. How it works and what it accomplishes is described on page 50.

Do you ever feel that standardization is a subject that's being beaten to death? It might be, but you can't prove it to us—not when we see some of the remarkable things standardization is still doing for industry. For an example, see the story on page 54. When a company cuts its materials items by 55% and saves \$100,000 in two years with a standardization program, we think the purchasing profession should hear about it—and learn from it.

Another story that never grows old is that of inventory control. A system that has simplified record keeping, permitted tight control over raw material purchases, and cut clerical costs up to 25% appears on page 58.



In recent years the traveling requisition has won wide acclaim as a time and effort-saver. But there are new and better ways to use the T.R. One, which involves having the requisition bypass the buyer completely on its way to the order typist, is described on page 60. Don't flip—the buyer still has the responsibility and authority for selecting the vendor. The only loss he suffers is that of clerical detail.

This issue's Industry Report (page 15) deals with nickel. It presents an authoritative look at supply, demand and price conditions in this important metal.

Speaking of forthcoming issues: on July 18 we will present the sensational story of an ugly but extremely important development in business—the return of the industrial racketeer. Our editors are now ready to release the facts about shakedown artists who are victimizing purchasing agents—but more often operating people—and bilking some of our leading companies of many thousands of dollars. Don't miss this significant story in our July 18 issue.

Ray Richards
Ray Richards
Publisher

5 ft. high



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Type 600
Warehouse
Ladder

**weighs
only 35 lbs.**

Although made
for heavy
warehouse duty—
it is easily
handled
by one person

If storage is a
problem... order
the folding model.



Made of high tensile strength aluminum alloy. Extra bracing and riveting. Extremely strong, yet lightweight. Roomy, non-slip type steps and platform. Handy platform and hand rails. Rubber front feet and rubber tire casters on rear legs. Surpasses ASA and MLA standards.

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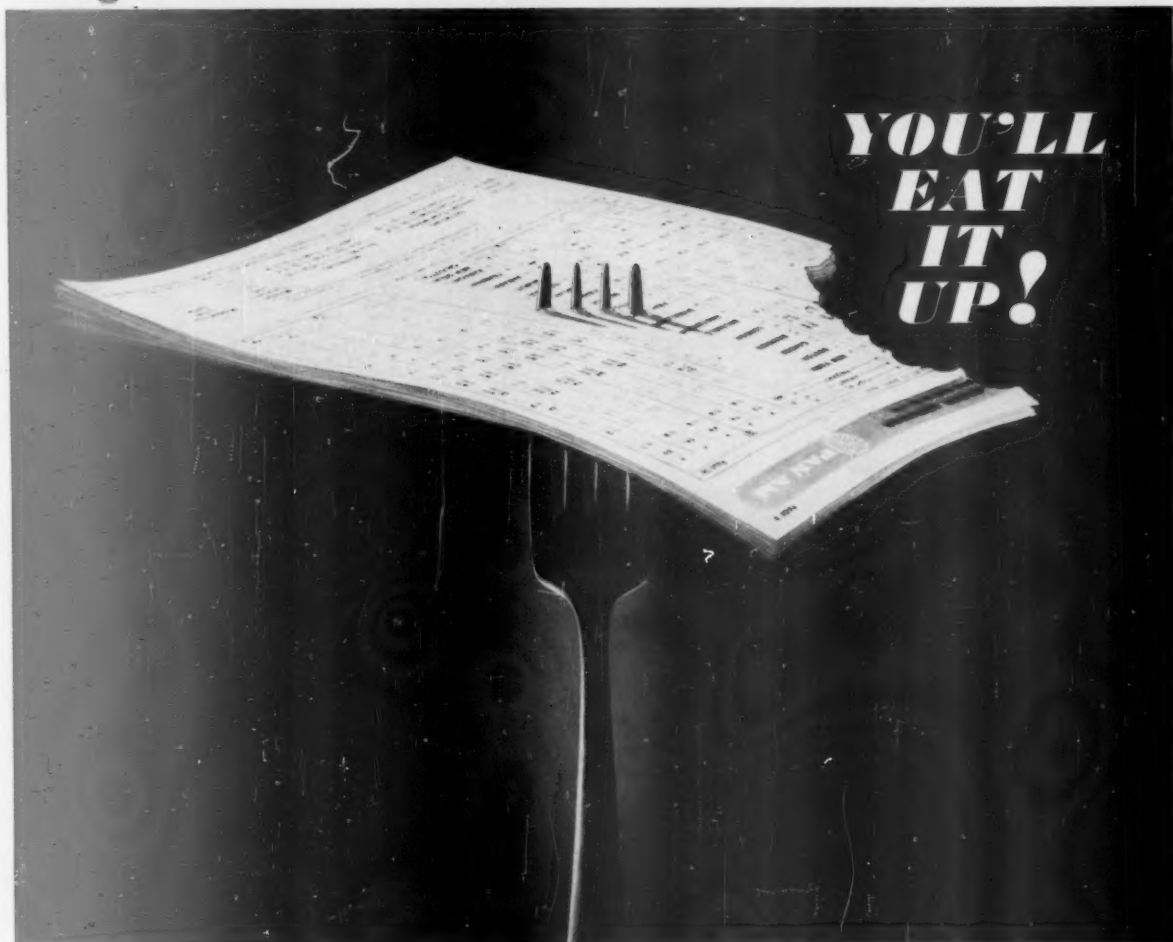
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on Place Mark Card—Page 32

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**YOU'LL
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IT
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Get a taste of this service. You'll like it! For time is just one thing you save when you order shipments by Pan Am Clipper.*

You save paper work, red tape, expensive crating charges, warehousing charges, inventory costs. And as for price—in addition to Pan Am's traditionally low rates to Latin America, transatlantic rates have just been cut up to 45%, transpacific rates were recently cut as much as 53%. Today in more and more cases it costs less to ship by Pan Am than the total for surface transportation.

No wonder more American companies now look to Pan Am as their *regular* means of overseas supply. Pan Am offers more: MORE PLANES (including more Jets) • MORE SPACE (new DC-7F's carry up to 15 tons of cargo) • MORE SPEED • MORE FLIGHTS • MORE ARRIVAL AND DEPARTURE POINTS IN THE U.S. • MORE SERVICE.

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PURCHASING REPORTS THE NEWS—If you have the time and personnel to put one out, a daily bulletin on business news developments would be a help to everyone and a status-builder for purchasing. All you need is a quick digest of key business items appearing in your local newspaper and a business paper like the Wall Street Journal or Journal of Commerce. It could be typed up and mimeographed in about an hour. Plant executives, supervisors, etc. who drive to work and often miss the morning paper will appreciate the service. You can also add any news developed in your own department—market outlook on certain materials, strike threats, major suppliers' expansion, etc.

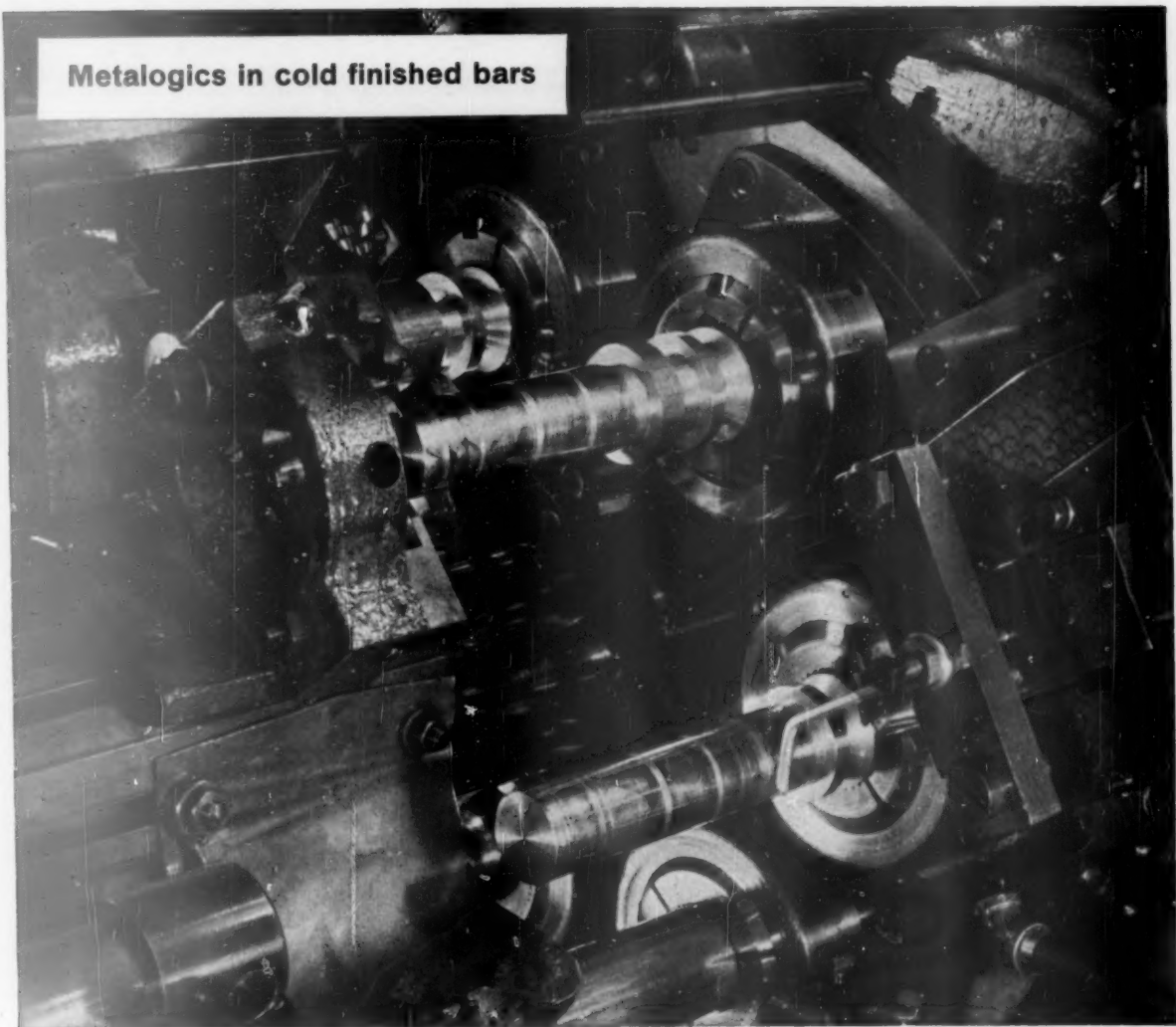
SPECIAL 'PHONE FOR PURCHASING—Purchasing department of an Ohio machine tool manufacturer has a direct telephone of its own in addition to its regular switchboard hookup. The volume of purchases made from local sources keeps the P.A. on the wire throughout the day. Direct line prevents tie-up and delays that often occur on calls going through switchboard.

IS YOUR PURCHASING MANUAL READ?—Purchasing manuals, like many other impressive looking books, are often put on bookshelves and never touched again. If the manual is worth putting together it's worth looking at occasionally. To keep your own people and operating departments aware of the manual and what it says refer to it regularly in memos and conversations. You don't have to be pompous about it; just casually indicate that you're doing such-and-such on the basis of written company policy. Otherwise you'll find that policies are being overlooked, then forgotten, and finally, violated.

REMEMBER THE FUNDAMENTALS—Despite all the scientific innovations in purchasing, the basic approach is still the best. P.A. for a medium-sized industrial firm puts a memory-jogger on every buyer's desk. It's a stand-up card with this printed message—
"The requisition rarely tells all. There are four good questions a good buyer should ask about every purchase:
 "What is it?
 "Where and how is it used?
 "Why is it used?
 "Is it the best thing for the purpose?"

WELCOME THE IDEAS, TOO—Here's a trick that will brighten up your welcome booklet and might bring you a few good ideas as well. Have one or more pages in the booklet made up as vendor-suggestion sheets. Have them perforated so that they can be removed easily. This gives a salesman a chance to leave an idea with you even though he might not be able to see you personally on a call. There's also more likelihood of a salesman taking the booklet along with him and dropping you an idea or two in the mail between calls.

Metalogics in cold finished bars



The big difference in Ryerson cold finished bars— consistent machinability

When you buy cold finished bars from the nation's largest supplier of steel from stock—Ryerson—you can always count on optimum machinability with dependable consistency. Setup headaches, production snarls and rejects are reduced to a minimum because the rigid quality controls of Ryerson Metalogics assure uniformity of stock from one lot to another.

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you unequalled service in depth. With 118 years of steel service experience, Ryerson has helped solve every conceivable kind of machining problem. And Ryerson stocks are the nation's largest, including even the hardest-to-get types and sizes. So Ryerson specialists are able to recommend the very best steel for any given application.

For consistent optimum results . . . plus on-time delivery, be "Metalogical"—call Ryerson.



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Everybody Wants Value

PURCHASING MAGAZINE
JULY 4, 1960

WHAT HAPPENS to a lot of good ideas could happen very quickly to value analysis. Purchasing agents have a responsibility to their companies and to themselves to see that it doesn't.

Value analysis has partly gone the way of many other concepts. A few people developed it and used it successfully for a while. Others ignored it or scoffed at it but eventually realized its worth. Then the idea really caught fire and everybody wanted in. This is where value analysis is today. But is it going the rest of the way—to the inevitable abuses that distort the original idea and make suspect everybody who believes in it?

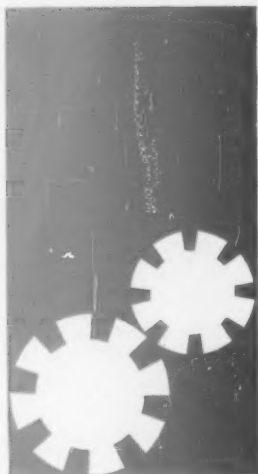
The evidence is that most analysts have observed the basic principle of value analysis—so aptly expressed by someone at General Electric as “paring costs without impairing quality.” But there are a few ominous signs appearing. They are not directly traceable to any organized value analysis program. Yet they are the types of things that could happen if value analysis were over-enthusiastically and improperly applied.

Who hasn't recently had a frustrating experience with poor quality—the automobile floor mat that wears out in six months, the bicycle handlebars that collapse from a moderate bump, the expensive toy that falls apart under normal usage? After a few encounters with “quality” of this kind, the average man will realize he's being taken in. He'll be convinced that some manufacturers aren't interested in value—for the customer, anyway. Eventually he'll begin to look for sources he knows will give him the quality he wants, and deserves for the money he's spending.

It isn't enough to say that the law of the marketplace will assert itself and eventually drive out the cheapjack producer. While this self-correcting process of business is going on, business itself will be getting a bad name. And the bulk of the blame is bound to fall on purchasing and the technique it has promoted so successfully—value analysis.

The appearance of a few rotten apples is no reason for dumping the whole barrel. Value analysis must be continued. But its original purpose—to give the ultimate consumer a *superior* product at a competitive price must not be passed by. This is the goal the purchasing agent must always remind himself and his fellow analysts of when the temptation to go overboard on cutting corners is too strong. As the guardian of the consumer's interests the P.A. will become a better guardian of his company's interests. As an industrial executive he has no alternative but to seek value for both.

Paul V. Farrell



IDP System Cuts Paperwork, Aids in Reports To Management

By William Paton and Gibbs Myers

MANUAL methods of preparing purchase orders and related documents can be quite adequate. But eventually a point will be reached where it becomes prohibitive in terms of time, effort and cost to compile necessary statistical data by such methods. We reached that point at Kearfott some time ago and we started looking around for improvements.

We decided to adopt integrated data processing. All departments

concerned—purchasing, systems and procedures, production control, traffic, accounting and engineering, as well as management—collaborated in developing the new system. We consulted specialists from Standard Register, Friden and IBM, and finally installed an IDP system that promises to measure up to our expectations.

We had two requirements: to efficiently handle purchase requi-

sitions, purchase orders and related paperwork; and to get source data for critically needed reports as an automatic by-product of purchase order processing.

The compilation of data for reports is of primary importance to us. Kearfott, which is a division of General Precision, Inc.,

Mr. Paton is manager of purchasing, Kearfott Division, General Precision, Inc. Mr. Myers is Kearfott's manager of systems and procedures.



Harold M. Zimmerman (left), director of procurement, and William Paton, manager of purchasing, Kearfott Division, General Precision, Inc., check one of the company's new purchase orders.



Discussing how the new 13-part continuous purchase order form will be used are (l. to r.): Clifford Chandler, systems and procedures analyst; William Paton, manager of purchasing; Harold M. Zimmerman, director of procurement; and Gibbs Myers, manager of systems and procedures.



Operator prepares 13-part continuous purchase order forms using master punched tapes, as here, or edge-punched cards for the entry of constant vendor and item information. Variable data are entered manually. A complete by-product tape is created which is subsequently used to make corrections, if any, and to create change orders automatically.

George B. Fielder, purchasing agent, edits a traveling requisition before authorizing preparation of a purchase order.



On IBM keypunch machine, wired to Flexowriter, punched cards are automatically created as by-products of the purchase order preparation. Kearfott gets one card as a commitment record and several other cards, one for each delivery of the items listed on an order.

has nine plants located in northern New Jersey, with branches in North Carolina and California. As manufacturers of aircraft and guided missile guidance control

equipment, we do a great deal of business under Government contract. The Government wants diversified reports on whom we purchase from, how, in what

amounts, etc.

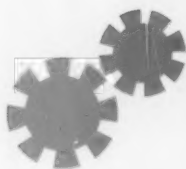
In the course of a year we have to process close to 70,000 requisitions and 60,000 purchase orders involving about 120,000 items. There are thousands of different items and hundreds of vendors.

IDP Covers Everything

The IDP system in use at Kearfott covers every purchasable item from pencils to precision-engineered equipment. It replaces a system based largely on the spirit duplicating process.

We formerly typed a three-part purchase order — original, acknowledgment and duplicating master. From the master the various copies for internal and Government use would be run off, including the receiving set. If we shipped material to a vendor for processing, additional copies were required as a vendor-shipper set. From the information contained on the original purchase order, tabulating cards would be punched manually.

With this system, it took too much time and too many people to punch cards in a separate oper-



mechanization cuts paperwork

ation, to prepare several copies by spirit duplication, to retype orders when changes were made, and to compile necessary reports.

The first steps in the new IDP system are manual ones, as before. A purchase requisition, made out by the production control department, is target-priced and sent to the buyer concerned. He reviews it and pulls the purchase history card, if any. A request for quote is then prepared, regardless of previous experience. Here, as elsewhere, we have found it easier to apply Government regulations across the board rather than attempt to apply them by exception.

Get Three Quotes

Requests for quotations go to a minimum of three vendors. After the quotes are returned, the buyer selects the preferred vendor and enters his name and code number, price and delivery promise on the original copy of the purchase requisition. To this he staples a strip of paper on which is printed the purchase

order number. These numbers are controlled by means of preprinted padded strips, in numerical sequence, that are furnished to each buyer.

The requisition then goes to a Flexowriter operator. She has a file of edge-punched master cards or master punched tapes for vendors and recurring items that are carried in stock. Vendor cards have name, address, terms, f.o.b. point, vendor number and a code to denote large or small business. Using the edge-punched cards, the operator enters constant information automatically and adds variable information manually.

A keypunch machine is hooked up to the Flexowriter. This arrangement enables us to get, in a single operation, the principal product, a typed purchase order, and three by-products—a punched tape and two sets of punched cards. One set consists of purchase commitment cards for each order; the other is made up of follow-up cards—one for each required delivery date on the order.

The purchase order is a 13-

part continuous form. The 13-part purchase order set is sent back to the buyer for approval; if any corrections are needed, it is returned to the typist for immediate handling. If it needs no corrections, the buyer removes the first and third copies and signs them. If the dollar amount of the order is above a certain value, the purchasing agent must also sign.

The first and third copies—original and acknowledgment—are mailed to the vendor and the remaining copies are separated and distributed. We have retained, for the time being, one segment of the spirit duplicating process. This is for the creation of receiving reports. For this purpose the number two copy of the purchase order set is a hecto master. In the future we will prepare receiving reports from tapes punched as by-products of the purchase order typing.

Copies four through thirteen of the set are distributed as follows:

- (4) To accounts payable.
- (5) To the purchasing expediter and buyer. This copy has back printing for posting receipts and follow-up information.
- (6) To the purchasing contract file. This copy has to be signed.
- (7) To the purchasing numeric file for use as a cross-reference copy.
- (8) To the division cost accountants.
- (9) To the production control expediter as the requisitioner's copy.
- (10) To Government inspector.
- (11) To pricing when covering production items to verify price paid and see that it is within cost estimates.
- (12) To inspection at the receiving plant indicated.
- (13) This is a special projects copy, used as a tool to enable purchasing to study the status of a particular job and to serve as a reference copy if a prime con-



Separation and distribution of the 13-part form after specific copies have been signed are quick and simple operations.

tractor wishes to know from whom Kearfott has bought.

The punched tape is filed with the contract copy of the order in the contract file, and the decks of punched cards go to tabulating for the eventual preparation of the many needed reports. The duplicating master copy is sent to the receiving plant concerned. As shipments against the order are received, the information is written on the master and the necessary copies are run off for distribution to purchasing, production control, materials review, inspection, tabulating, and accounts payable.

Change Form Design

One of the notable improvements in this system over the old is seen in the change in basic form design. Form design is especially vital when we punch tabulating cards as an automatic by-product of form typing. That means that data location on the form must conform with the layout of the punched card.

With the aid of a Standard Register forms specialist, we were able to make optimum use of the form area. The old forms measured 8-1/2 x 11 and so do the new forms after the marginal holes have been stripped off. By using more preprinted information and conforming to basic paperwork simplification layout techniques, we reduced the space needed for heading and body entries to permit preprinting necessary clauses and requirements, an index to the unit measurement code and a delivery schedule of seven dates. There is also enough room to enter special instructions concerning the order.

Processing of data for reports is much faster now. Tabulating receives cards punched as by-products of purchase order preparation, ready for immediate processing. These and other cards can then be used in a variety of combinations to prepare reports. Thus, we can get:

(1) Tabulations of open order balances for use in purchasing follow-up. They reduce posting, increase the accuracy of the information, and facilitate the checking of order status.

(2) Tabulations of purchase

Kearfott COMPANY, INC.		PURCHASE ORDER	
1100 MARINE AVENUE LITTLE FALLS, NEW JERSEY		SHOW THIS PURCHASE ORDER NUMBER ON ALL SHIPPING CONTAINERS, PACKING LISTS & INVOICES. PACKING LISTS MUST ACCOMPANY EACH SHIPMENT.	
BUYER NO. (1)	9022	ORDER NO. (2)	9458066906501
BUYER'S NAME (3)	J. J. JONES	CHARGE NO. (4)	G66014
SHIP TO (5)	J. TAYLOR	DATE (6)	03 JUN 1960
TO (7)	J. C. CLAYBOND AND SONS 306 21ST AVENUE GARFIELD, NEW JERSEY ATT. MR. J. CLAYBOND	SHIP TO (8)	10. ORDER NUMBER
DESTINATION (9)	2X 10TH PROX	TERMS (10)	2X 10TH PROX
QUANTITY (11)	1 SLEEVING	QUANTITY (12)	Q 2251242 90
UNIT PRICE (13)	500 4240	UNIT PRICE (14)	1000
EXTENSION (15)	500 5160	EXTENSION (16)	127 EA
DELIVERY SCHEDULE BELOW		TOTAL PRICE (17)	
500 4240 500 5160		127000	
PER YOUR QUOTATION DATED FEB. 19/1960			
<p>WHEN CHECKED HERE THE FOLLOWING PROVISIONS WILL APPLY TO THIS ORDER:</p> <p>1. THE SUPPLIER IN THIS ORDER AND SUBJECT TO GOVERNMENT INSPECTION AT POINT OF MANUFACTURE A COPY OF THIS ORDER MUST BE FURNISHED TO THE GOVERNMENT INSPECTOR WHO NORMALLY SERVES YOUR PLANT OR TO THE NEAREST ARMY, NAVY OR AIR FORCE INSPECTION OFFICE IN YOUR LOCALITY ALSO WHEN MATERIAL IS READY FOR INSPECTION OR IF PRACTICABLE, TWO DAYS IN ADVANCE FURNISH A COPY OF THE GOVERNMENT INSPECTION OFFICE IN THE EVENT THE INSPECTOR OR OFFICE CANNOT BE LOCATED YOUR PURCHASING AGENT SHOULD BE NOTIFIED IMMEDIATELY THE APPLICABLE PORTIONS OF MIL. SPEC. APPLY TO THIS ORDER.</p> <p>2. WHEN CHECKED HERE THE FOLLOWING PROVISIONS WILL APPLY TO THIS ORDER: MATERIALS USED FOR THIS ORDER MUST CONFORM TO APPLICABLE DRAWING SPECIFICATIONS PHYSICAL AND CHEMICAL DATA TO INSURE SUCH CONFORMANCE MUST BE AVAILABLE AT YOUR FACILITY AND MUST BE FURNISHED UPON OUR SPECIFIC REQUEST.</p>			
<p>QUALITY CONTROL REQUIREMENTS—THE FOLLOWING PORTIONS OF MIL-SPEC ARE APPLICABLE TO THIS ORDER WHEN NOTE 1 OR NOTE 2 IS SPECIFIED IN THE QUALITY CONTROL REQUIREMENTS BOX ABOVE.</p> <p>NOTE 1 SECTIONS 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.</p> <p>NOTE 2 SECTIONS 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.</p>			
<p>INSURANCE VALUATION—IF A SHIPPING POINT IS SPECIFIED IN THE ORDER, THE FOLLOWING VALUATION SHALL APPLY: PARCEL POST—UP TO \$500 NO EXCESS VALUATION; OVER \$500 SHIP COMMON CARBIDE AND BICLA & NO EXCESS VALUATION.</p> <p>RAIL AND AIR—DECLARE NO EXCESS VALUATION. VALUATION DECLARED AT OTHER THAN ABOVE WILL BE AT SUPPLIER'S EXPENSE.</p>			
<p>SEND INVOICES IN TRIPlicate TO: KEARFOTT COMPANY, INC., 1100 MARINE AVENUE, LITTLE FALLS, N. J.</p> <p>IMPORTANT—SIGN AND RETURN ACKNOWLEDGMENT WITHIN ONE WEEK.</p>			
<p>1 ORIGINAL</p>			

Kearfott's 13-part purchase order form. Its somewhat unorthodox design facilitates data processing that helps generate other reports and documents.

commitments required by management.

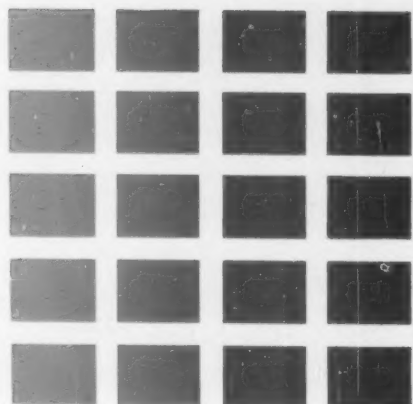
(3) Tabulations of vendor performance reports. They summarize data that help purchasing select vendors.

(4) Stored data available for reports on completed orders, returns to vendors, small business reports, and the like. All of these used to be prepared manually. Reports can be broken down in diverse ways—by buyer, by vendor, by item, by purchase order number, by part number, by due date, etc.

Other benefits are to be expected. We are looking forward to a reduction of the clerical work of purchasing expeditors and clerks; improved vendor performance; availability of ac-

curate and up-to-date order status reports for the use of production control; an ability to close out completed orders promptly; and improved communications between departments so that all will get the same information at just about the same time.

But most important, this step is preparing us for the expansion of IDP into related areas. We will one day be able to generate information in purchasing and receiving which can be automatically re-used in accounts payable and inventory accounting, in traffic and production planning. The future as well as the present must be taken into consideration whenever any plans are laid for improvement in operations, systems or procedures. ► END



How Standardization Helps Everybody

A thorough material standardization program has meant fewer purchase orders, less inventory, more complete manufacturing specifications, and better engineering drawings. In addition, the program saved \$102,000.

By Gerald L. Swartwood

IN THE two years since the Bryant Electric Company's material standardization program was begun, it has already saved the company \$102,000. Of the 1447 material items reviewed by January 1, 1960, 653 were authorized for stock while 794 were withdrawn as unnecessary—a reduction of 55 percent.

Before the start of the program a preliminary review of the inventory situation confirmed our opinion that savings in inventory could be made through standardization of raw materials. The manner in which these savings could be made were:

- 1) By buying in larger quantities and thereby obtaining a better unit price;
- 2) By consolidating orders and thereby reducing amount of paper work; and
- 3) By reducing raw material inventory and thereby reducing warehouse handling costs.

The effectiveness of this pro-

gram—which started officially in January, 1958—can be measured in dollars or in total number of items eliminated from the authorized raw materials list. Each is a useful management tool. Equally significant, however, are the intangible results: the updating of drawing information and the creation of new specifications for better control of incoming raw material and its processing.

The initial step in the program was the tabulation on 14" x 24" accounting sheets of all 1883 raw material items normally stocked and used. A part of this tabulation is shown in box on page 55.

The data listed in the first seven columns, information about the material itself, was readily obtained from the production planning department. The data listing the parts in which the material is used was not obtained as easily. Frequently the same material was used for parts that were common to as many as 20 to 30 catalogued items. This meant a thorough re-

view of manufacturing information to find out exactly how each item was used.

Once this data for all 1883 raw material items was tabulated, the next step was to review each item to determine its displacibility. A standardization committee formed for this purpose included representatives from purchasing, quality control, manufacturing planning, production, tooling, and engineering standards, liaison, and the engineering laboratory. Review procedure planned by the committee involved five steps:

- 1) Review each raw material item to determine feasibility of using a less expensive grade of the same raw material or of substituting a different raw material.
- 2) Review material temper—degree of hardness—to de-

Mr. Swartwood is materials and standards engineer at the Bryant Electric Co., Bridgeport, Conn. For the past two years he has been chairman of the standardization committee whose work he describes in this article.

termine possibility of using one material temper to replace several having approximately the same tempers.

- 3) Review material size—width, length, thickness—to determine possibility of using a raw material of standard stocked size to replace comparable non-standard size.
- 4) Review material finish to determine need to rewrite or issue new finish specifications.
- 5) Review manufacturing operations to determine need to rewrite or issue new process specifications.

The review of each raw material quickly disclosed the almost complete lack of purchasing department specification (PD specs), finish specification (finish specs), and process specification (process specs) information on drawings. It was also found that existing materials engineering specifications covered only a fraction of the requirements. As a result, it was necessary to prepare and issue 29 PD specs, 15 finish specs, 6 process specs, and 7 test specs.

Coordination of the standardization program was handled by the materials and standards engineer. He served as chairman of the weekly meetings at which each department reported progress on its portion of the review. Where material substitution was proposed, complete devices were thoroughly tested in the laboratory before the substitution was authorized.

Study Tool Changes

While the need for interdepartmental cooperation had to be stressed during the early stages of the program, the results of these cooperative efforts soon became the motivating force behind the program. Soon production planning was bringing sample parts for review at the weekly meetings. Between meetings, tooling and manufacturing jointly reviewed all existing tooling as well as all estimates for proposed tool changes and reported their findings at the weekly meetings. Changes for design feasibility

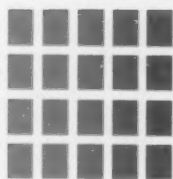


The author, Gerald Swartwood (left), and Purchasing Agent Warren E. Anderson study a raw material usage tabulation. As members of the standardization committee, they reviewed 1447 raw material items to determine whether they should be made standard and kept in stock, or substituted.

BRYANT MATERIAL STANDARDIZATION PROGRAM

Material Description Thk Width Length PD#	Ann. Act.	Part No.	Dwg. No.	Part Desc.	Cat. No.	Dwg. No.	Material Substitution Thk Width Length PD#	Remarks
016x5/32x8 Brass 2676-6	570	E27214 E27844	14514C 15207C	Bracket Bracket	FB# FB40	14526A 14540C	016x5/32 Brass 2676-6	Bracket width 5/32 required
016x255x8 Brass 2676-6	100	E21236 E21237	9922C 9921B	Contact Contact	20 20	9920L 9920L	016x1/4 Brass 2676-6	1/4 width o.k.
016x255x8 Brass 2676-10	360	E29438 E29439 E29440 E20654 E21287 E21679 E24024	15914D 15913D 8030C 8979C 10018B 10213C 8979C	Brush Brush Contact Contact Brush Contact Contact	207 204 209 4013 5128 310 15	8051L 8014L 15455L BU1976 10012A 14141A Cat. card	016x1/4 Brass 2676-10	Ex. Hd. Tem- per required
016x255x8 Brass 2676-4	48	E28254	15600C	Strap	5269	15599A	016x1/4 Brass 2676-6	1/2 hd. o.k.
016x255x8 Brass 2676-11	924	E20126	8943C	Brush	T06	6294B	016x1/4 Brass 2676-10	-10 o.k. per 6/10 lab rpt.
016x7/16x8 Brass 2676-8	10	E2737	3125A	Washer	392	4957B	Slit from 1" wide 2676-5	1/4 hd. o.k.
016x13/32x8 Brass 2676-10	2376	E2757 E4238 E13064 E16123 E18213 E22163	7671C 6340C 7671C 6180C 8180C 10459C	Contact Contact Contact Contact Contact Contact	T9 4229 4190 421 421 337660	1800A 4299A Cat. card 18783B 18783B 4299A	016x13/32 Brass 2676-10	Ex. hd. Temper Required
016x15/16x8 Brass 2676-3	900	E17718	7152C	Housing	746	8K521	016x15/16 Steel 7300-5	Steel o.k.

Essential information in tabulation is material description, annual usage, and how used. Whether material is retained in stock or substituted is determined after careful study. This page covering brass strip shows much of the 0.255 in. wide material was changed to a standard 1/4 in. width.



cut costs with standardization

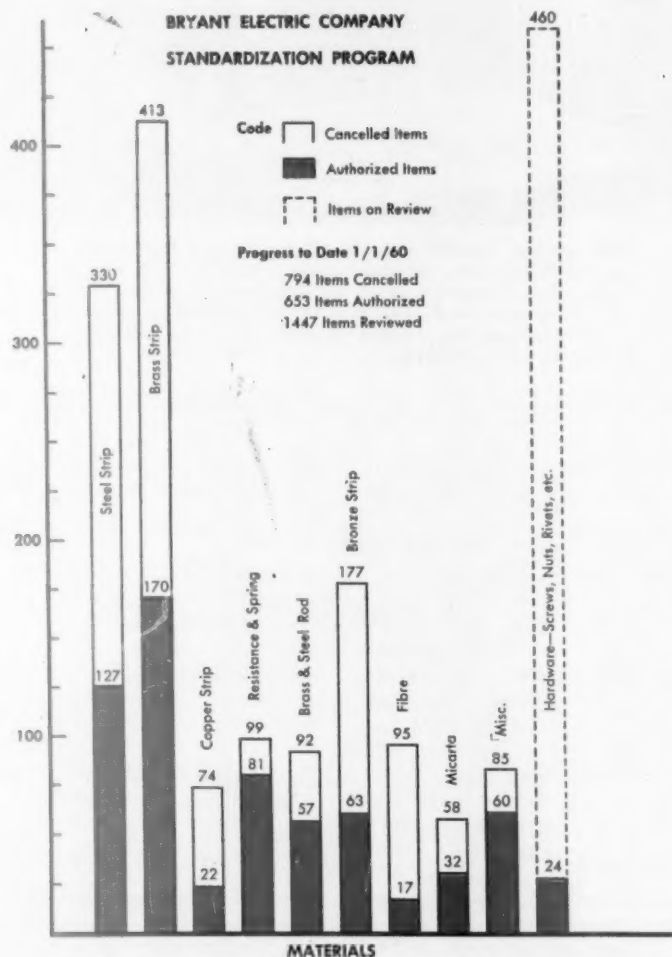
were reviewed by the liaison engineer and then cleared with the responsible product design engineer prior to his weekly report. And, the engineering laboratory supervisor assisted in raw materials evaluation and arranged for laboratory tests that ultimately reached the standardization committee at one of its weekly meetings. It was a team effort that paid off.

At the start of the program, no

published information could be found to use as a guide to analyze the economics of standardization. In order to calculate savings and insure that economical standardization moves were made, formulas had to be developed. Such formulas are essential if an objective analysis of the several cost factors—increases as well as decreases—is to be made.

The accomplishments for the two-year period covered are

shown graphically in box below. On January 1, 1960, a total of 1447 raw material items had been reviewed by the Committee. Of this number, 653 had been approved and authorized for stock, while 794 items had been disapproved and authorization for stock withdrawn. This 55 percent reduction in the number of raw material items carried in inventory is indicative of what can be accomplished when a planned program is methodically and enthusiastically carried out.



Bar graph vividly shows drastic cut in the number of raw material items carried in stock. Total reduction was 55% of the items reviewed.

Reduce Inventory

While these total figures are impressive, a better feel for what was accomplished can be obtained by studying the bars in the box that represent different kinds of raw material. Take the bar for steel strip, for example—the extreme lefthand bar on the bar-graph. The 330 figure at the top of the bar is the total number of steel strip items authorized for stock at the outset of the program. The 127 figure at the top of the diagonally hatched area of the bar is the number of steel strip items authorized on January 1, 1960. The difference—203 items—have been taken out of inventory. Each of the other bars represents an equally significant accomplishment.

A great deal of work went into this standardization program. In addition to the review of raw material item data, the material specifications for more than 1850 drawings had to be revised or brought up to date. And for about 750 of these drawings, the finish, process, or test specification information had to be revised. But the result is current, up-to-date drawings.

The total savings made by January 1, 1960 are calculated to add up to \$102,000. Of this, 34% came directly from standardizing while 66% came from material cost reductions generated by the

How Savings From Standardization Are Calculated

To determine exactly how much money was saved by the Bryant raw materials standardization program, the committee developed a formula for each of the four factors which affect total cost. These are:

- 1) Price reductions for higher order quantities;
- 2) Reduced processing expense with fewer orders;
- 3) Lower inventory carrying charges;
- 4) Increased or decreased revenue from scrap sales.

Each formula is described here, and an example worked out. The savings calculated are those made by consolidating 1-15/16 in. brass strip with 2" strip. The figures used are those shown in the table.

Price Reduction

Ordinarily the price reduction savings will be the largest of the four factors considered. It is computed by subtracting the annual purchased cost of the standardized material from the annual purchased costs of the items combined.

Using the figures cited in the chart, the price reduction savings for the example can be calculated as follows:

$$(7632) (.4982) + (10328) (.4792) \\ - (18208) (.4492) = \$572.41$$

Order Processing

The order processing cost for any item is simply the product of the number of orders placed for

Items	Before Standardization			After Standardization		
	Annual Activity in pounds	Economical Ordering Quantity in pounds	Price per pound	Annual Activity in pounds	Economical Ordering Quantity in pounds	Price per pound
.032 x 1-15/16 brass strip PDS2676-6	7632	2000	.4982	—	—	—
.032 x 2 brass strip PDS2676-6	10328	3000	.4792	18208	5000	.4492

standardization investigations.

The raw material review is completed. The final step in the program is to carry out the same study of 460 hardware items in stock—screws, nuts, rivets, etc. It is expected that this review will yield savings and advantages comparable to those already gained in the raw material program.

To assure continuity of the material standardization program, all new products or parts will be reviewed to determine which of the standard stocked raw materials are to be used. All standard stocked raw materials will be catalogued in a loose-leaf material standards book that is now being compiled. Reference copies of this

that item in one year multiplied by the average cost of handling an order. This average cost has been calculated as \$5.27. The number of orders placed in one year is equal to the annual activity of any item divided by its Economical Order Quantity.

Order processing savings, then, is computed as the difference in the number of orders placed as a result of the standardization move multiplied by the average cost of order handling (\$5.37). For the example this becomes

$$5.37 \left[\frac{7632}{2000} + \frac{10328}{3000} - \frac{18208}{5000} \right] = \$19.42$$

Inventory Carrying Charges

In computing these costs, a figure of 4.5% or .045 is used, as the average cost of carrying any item in inventory. This is multiplied by the cost of the material purchased—Price times Economical Order Quantity.

To find the savings resulting from standardization the new carrying costs are deducted from the old. For the example this becomes

$$.045 [(4982) (2000) + (.4792) (3000) - (.4492) (5000)] = \$8.46$$

Scrap Allowance

This factor takes into consideration the change in the amount of scrap due to a standardization move. When two materials are consolidated by raising a dimension of the smaller one, as in the example, this factor will be positive, representing a partial recovery of the increased material purchased. The price which can be obtained for the scrap is multiplied by the change in annual activity due to standardization.

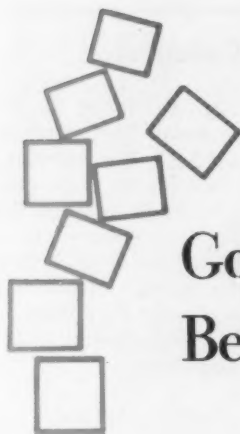
Assuming the brass strip in the example to have a scrap value of .1738/lb., this saving becomes .1738 [18208 - 7632 - 10328] = \$43.10

Total Savings

The four factors are added together and compared to the cost of making the change-over. In the case of the example cited, the required tool changes were established at \$60.00 and the total calculated saving of \$643.39 established the economy of standardizing.

book will be available in each department involved with raw materials. Before tools are authorized for new designs of existing products or for new products, the use of standard raw materials will be thoroughly investigated before an additional raw material item will be authorized for stock.

► END



Good Records Mean Better Inventory Control

SIMPLIFIED recordkeeping has effected tight control over raw material purchases at Gardner-Denver Company, Denver, Colo., while at the same time reducing clerical costs by as much as 25%.

This dual advantage goes hand-in-hand with greater flexibility, almost flawless accuracy, and improved forms control in the purchasing process. Put together, they have made possible a greater degree of managerial control, making available to management an accurate, running picture at

all times of raw material inventory status.

Gardner-Denver is a leading manufacturer of mining equipment, principally rock drills and compressors. It purchases approximately 2100 items of raw material, the majority in steel, copper, bronze and aluminum.

Of these 2100 items, about 1500 are constantly in the process of being worked upon. To prevent serious breakdowns in production there must be the very keenest control of these active items.

In fact, this control was one of Gardner-Denver's major problems.

The inventory control department must be able to tell at a glance exactly how much of any item is on hand, and the amount available for production purposes. If shortages occur, people in the production department might easily be left standing with nothing to do.

The most important factor of the new system is that it enables posting of the requisition to the record before it progresses any further. In other words, the material requested is immediately reserved.

Holds 414 Records

Gardner-Denver has seven special trays mounted on casters to permit easy accessibility. Each tray contains 18 panels, each of which, in turn, has 23 individual pockets with visible margins. Both the face and reverse side of these pockets are usable. Each tray, therefore, can accommodate records for 414 individual raw material items in the firm's inventory control program.

The panels open to a "V" shape and remain open at a particular item throughout an entire posting process. The pockets hold 8" x 8" cards and are large enough to accommodate supplementary forms which Gardner-Denver uses in its raw materials control, such as, work order requests, stores requisitions, material cost tickets, and work tickets.

Permanent indexing is provided



Clerk in inventory control department of the Gardner-Denver Co. works from indexed panel of Remington-Rand card system installed to control the thousands of raw material items.

by the use of title inserts which contain all the months of the year for a five-year period. They serve as a permanent identification of the item and permit the addition, deletion, and change of the records filed in the pocket.

Movable signals also reveal usage of the particular item during each month of the year.

The clerk maintains two forms in the pocket for each item. One is the material record. This shows the balance on hand, how much has been used, date shipment was received, quantity, order number, name of vendor, and the dollar value of shipment.

How to Reorder

The other is the traveling requisition. This contains the date, the order number, vendor's name, date of shipment, quantity, any balance not received in the shipment, and the unit cost. Both forms contain all of the specifications for the item.

To reorder: All the inventory clerk has to do is lift the traveling requisition from its pocket, note the amount needed, and forward it to purchasing.



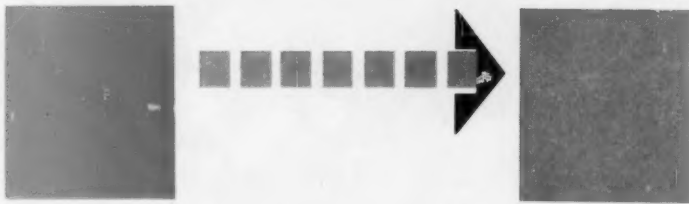
Wesley M. Stark, scheduling supervisor, pulls the movable files right up to his desk to check inventory of raw materials.

ward it to purchasing.

The new system enables Gardner-Denver to know immediately how much of an item has been withdrawn and the balance which

is available for use. The streamlining of the raw materials control saves at least one-fourth of the time in clerical help over the old system. ► END

The new inventory control forms at Gardner-Denver Co. have helped to effect tight control over raw materials and have also reduced clerical costs by 25%.



Traveling Requisitions Bypass the Buyer

By John F. Sincere, *Midwestern Editor*

HOW FAR can you go in cutting paperwork in preparing requisitions and purchase orders? The traveling requisition has been hailed as a great time- and effort-saver, and it is. But purchasing at General Electric's X-Ray Department in Milwaukee has carried the idea a step further—to the point where the traveling requisition bypasses the buyer completely when an order is made up.

GE's system is called "delegation." The buyer in effect delegates the authority to buy certain items to a materials analyst in the inventory control section. But delegation by no means affects the buyer's responsibility in the areas of vendor selection, prices, and order quantities.

As repetitive items are entered on traveling requisitions, the buyer determines who the vendors will be and the amount of business they'll get, price breaks, etc. If he thinks these factors will remain constant for six months to a year, he places a red "D" in the lower left hand corner of the card (see illustration.) This is a signal to the materials analyst that he can pass the traveling requisition directly to the order typist when it's time to re-order.

The cycle begins when the materials analyst receives a production requirements report based on the master factory schedule. The report lists all purchased part re-

quirements in material code number order.

Items on the production requirements report are checked against purchase parts-raw materials records. If the unreserved balance on the record card covers the requirement, the transaction

is completed. If it does not cover, the material analyst prepares the traveling requisition, figuring order quantity on the basis of requirements, price breaks, rejection and spoilage history, requirements for spare parts, and desired inventory levels. He adds the date, his initials, and an order number from a block of numbers assigned to him (and includes a suffix indicating the buyer of the item.) He sends the requisition directly to the order typist. (Non-delegated requisitions of course go to the buyer.)

At first, buyers were skeptical of delegation. Some felt they would lose control over orders and lose contact with suppliers. Neither has happened because of the checks and reviews built into the system, and the buyers are now the biggest boosters of delegation.

As Purchasing Agent Jim Mays puts it, "We've been able to take a lot of clerical work off the backs of the buyers with delegation. Once they saw that it was relieving them of detail without diminishing their authority they were all for it. The buyer gets back into the act immediately when problems arise."

If, for example, the materials analyst spots an abnormal number of rejections in his material records, he immediately refers the situation to the buyer. And the



Purchasing Agent Jim Mays: "Purchasing can solve one of its biggest problems if it can cut down on the large amount of clerical work buyers are forced to perform."

Form 7 100

PRODUCTION REQUIREMENTS REPORT

PART NO.	REL. NO.	SWEL. NO.	LOT NO.	W/M	MATL./PC.	UNIT QUAN.	TOTAL QUAN.	LOT QUAN.	TOTAL MATL. REQD.	MATL. CODE	DATE
3 4 10 3	4830	161 E380 000	4597	PC		16		1	16 00	66423	2 0
									16 00		
3200	910	283 D413 901	4604	PC		3		20	60 00	66425	3 3
									60 00		
515 A140 002	1302	161 E132 000	2722	PC		10		170	1 700 00	66429	1 4
515 A140 002	2385	161 E361 000	2647	PC		1		48	48 00	66429	1 8
515 A140 002	3325	161 E362 000	2648	PC		1		45	45 00	66429	1 8
									1 793 00		
515 A140 003	1304	161 E132 000	2722	PC		1		170	170 00	66430	1 4
									170 00		
3 4 10 2	4660	161 E380 000	4597	PC		10		1	10 00	66432	2 0
									10 00		
3 4 10 3 1 2	4670	161 E380 000	4597	PC		4		1	4 00	66433	2 0
									4 00		
	920	161 E 701	2749	PC		1		75	75 00	66436	2 6
									75 00		

Production requirements report is run off by computer after master factory schedule has been exploded.

PURCHASE PARTS - RAW MATL RECORD
P 187A

DATE: 11/2/59 ORDER NO.: C QUAN.: 250 PRICE: 1.65 UNIT: 1000 WKS: 3 345 10 10

RECEIVED BY: 51083

VENDOR: NAME AND ADDRESS
A.B.C. CO., 1000 MAIN ST., MILWAUKEE 5, WISCONSIN
BOLT RELAY CO., 125 5TH ST., LONG ISLAND CITY, N.Y.
JONES-BROWN, INC., 1200 WABASH, CHICAGO, ILL.

PART NO. ON MATERIAL ORDER: RELAY 501A948 P1

ACCOUNT NO.: 053-11-091

STK. E

CONFIRMING NO.: 2-10

DATE: 11/2/59

ORDER NO.: 10538-3

PRICE: 1.65

QUAN.: 250

DATE: 11/2/59

RECEIVED BY: 51083

VENDOR: NAME AND ADDRESS

REMARKS: ORDERING DATA, ETC.

DESCRIPTION: RELAY 501A948 P1

LOCATION: 11/14/59

Materials analyst checks production requirements report against purchase parts-raw material record (top) to determine how much of each item should be ordered. He then completes traveling requisition (bottom) and sends it directly to the order typist.

buyer is automatically called in when:

- (1) The vendor's acknowledgment does not agree with the order.
- (2) The invoice does not agree with the order.
- (3) The material is rejected.
- (4) The order is overdue or on the shortage list.

The buyer retains complete control over selection of the vendor.

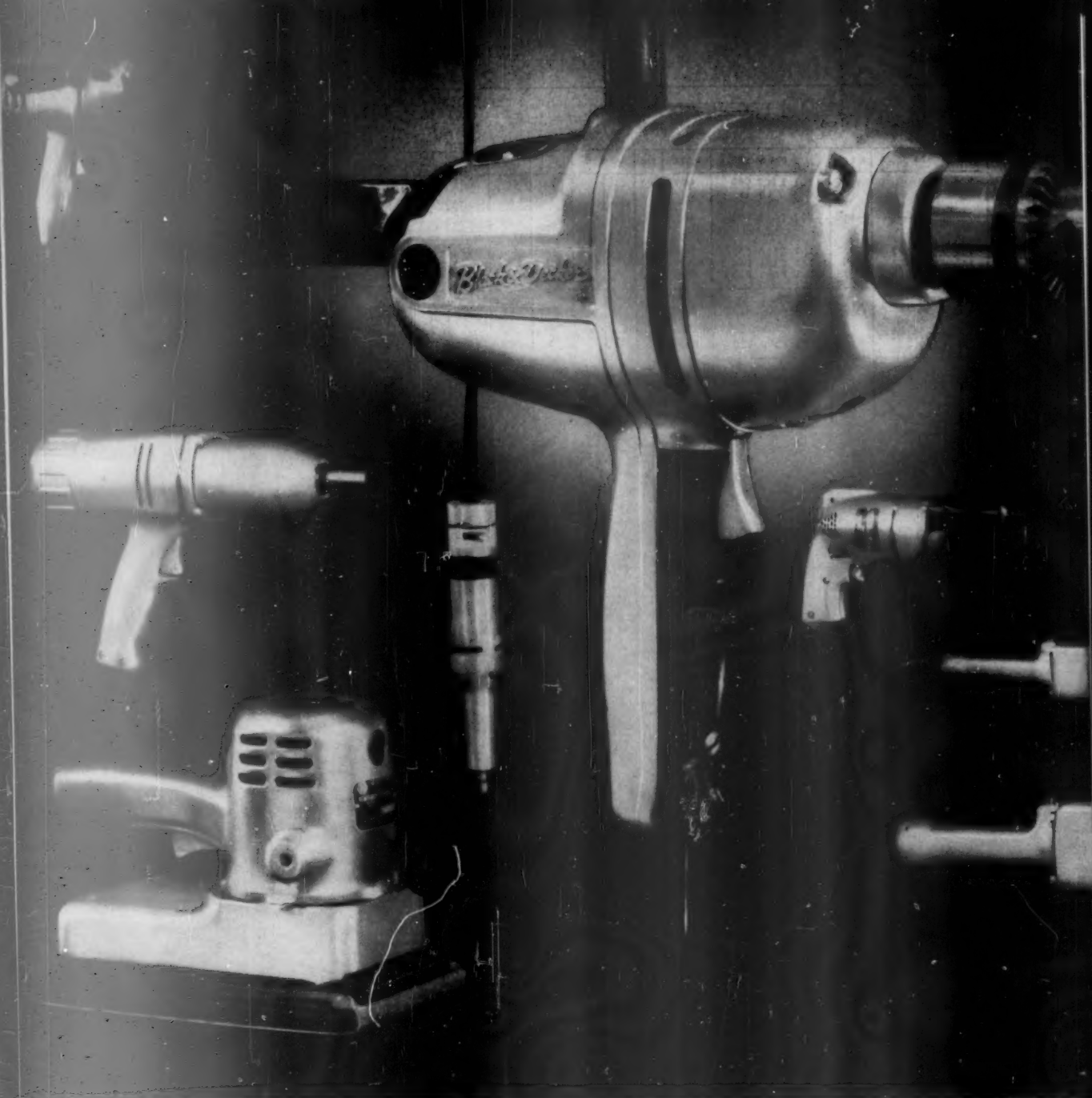
At any time he can remove a supplier from the approved list for such faults as excessive rejects, unjustified price boosts, poor delivery, etc. He can also remove items from the delegated category if he feels the situation requires his personal attention.

During the recent steel strike, for example, buyers had to keep in close touch with steel suppliers, so they personally handled

all steel requirements—delegated or not. When the strike ended, delegated steel items were again ordered by the analyst.

Delegated items are reviewed regularly by the buyers. Buyers program these reviews so that they check each item about twice a year. When a delegated item that has not been ordered for a year or more comes up it is referred to the buyers. ► END

For More Information about ad on following page
Write No. 187 on Place Mark Card—pg. 32—



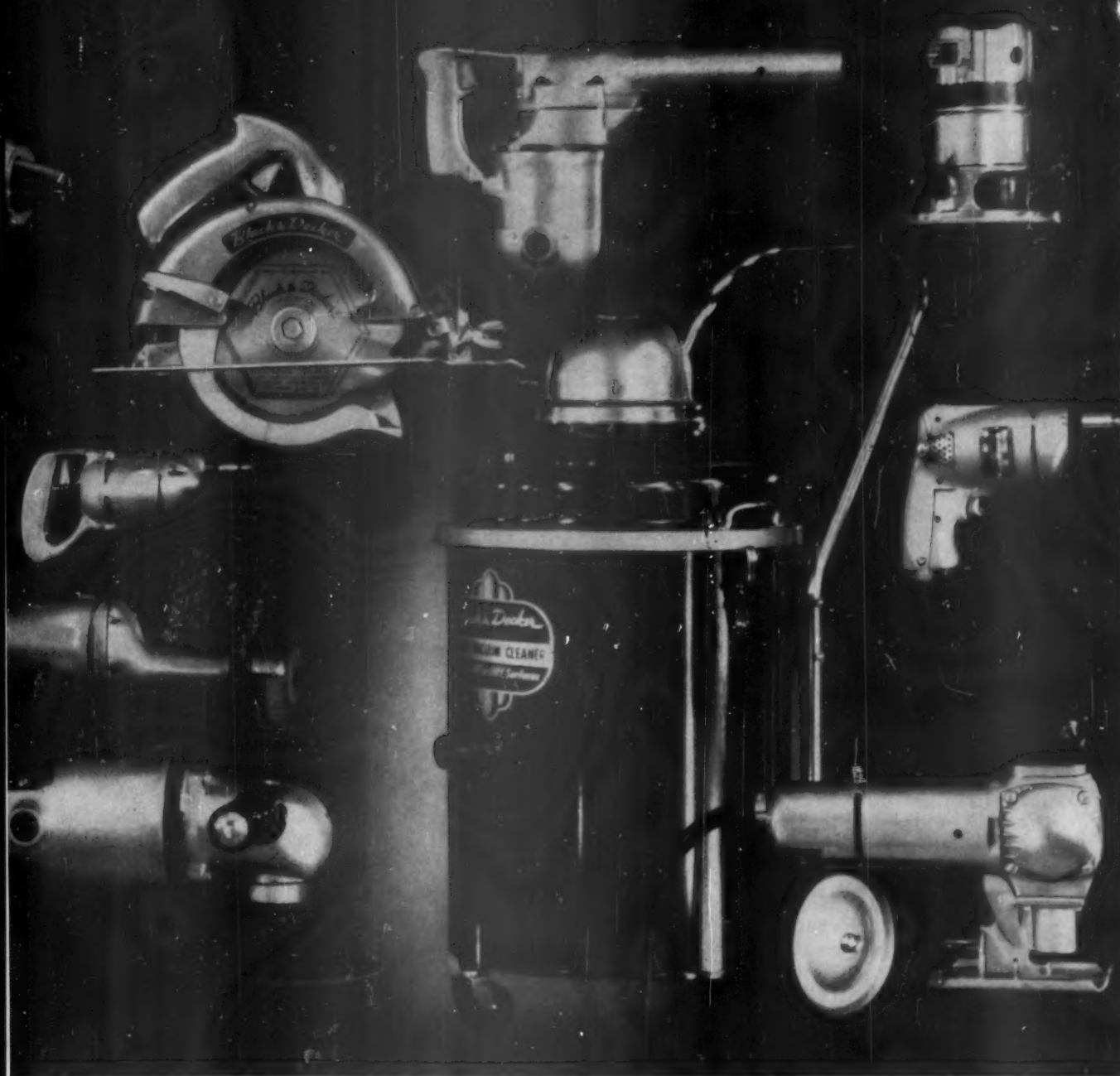
Depth of line . . . depth of

Those are the twin benefits you get when you fill your portable electric tool needs with the Black & Decker Line through our outstanding Black & Decker Distributors.

The Black & Decker Line offers you a choice of over 130 different quality electric tools—and thousands of accessories. From drilling to polishing—cutting to finishing—there is

no better value in power, performance and price.

The Black & Decker Distributor gives you the benefits of warehousing facilities that reduce your inventory requirements—a single buying source that cuts your paperwork—expert knowledge of tool applications that speeds your production and maintenance—emergency service that bails you out when



service . . .

trouble strikes—and a double guarantee of satisfaction.

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*Better
Value*

FROM

Black & Decker®

Quality Electric Tools

Dept. 1707, Towson 4, Maryland

Quick-to-Stick Foil Labels Identify Products Permanently

By Bernard Peterson

A big name is being made in the product labeling and decorating field by pressure-sensitive and activated bonding film tapes which enable quick and permanent adherence of aluminum foil labels—without need of mechanical fasteners.

Capable of being applied at least 75% faster than most labels can be attached with screws or rivets, these adhesive-backed, lightweight metal labels are used today for permanently identifying and decorating everything from the kitchen sink to jet airliners. Tapes—sensitive to the touch or quickly activated by heat or solvent—now can be found holding labels on missiles, pogo sticks, a variety of packages, vacuum cleaners, and shavers.

Tapes Are Versatile

Because these tapes are versatile almost all sizes and shapes of metal foil in every color can be adhered to any smooth, cohesive surface—metal, wood, porcelain, glass, plastic, lacquer or shellac—without inconvenience of surface preparation or heavy, hard-to-handle equipment. What's more,

their flexibility assures that labels will conform to almost all curved and irregular shaped surfaces.

These labels can be applied in only seconds by just one person by following these steps:

- (1) Remove the liner over the tape to expose the adhesive.
- (2) Press the label directly to the surface if the adhesive is

pressure-sensitive—if not, immediately after it is activated by heat or solvent.

- (3) Apply a hand roller or similar applicator against the labels to assure maximum adhesion and label smoothness.

So popular are tape-adhered labels becoming that many billions of them—including name-



Aluminum foil labels of all shapes, sizes, and colors can be attached permanently in seconds without fasteners by the use of high-strength adhesive films.

Mr. Peterson, who has been closely associated with foil label development, is with the consumer use department, C & H Supply Co., Inglewood, California.



To apply pressure-sensitive label, remove protective liner from adhesive and press onto smooth, cohesive surface. Labels with activated adhesive can be applied this way immediately after activation with heat or solvent.

plates and other identification devices—probably will be used in the next five years.

The tapes adhere so firmly that labels almost become fused with the surfaces. In fact, it is often difficult to tell by touch where the label ends and the surface begins. Thus, there is little or no wear on the edges.

Resistant to aging, extreme tem-

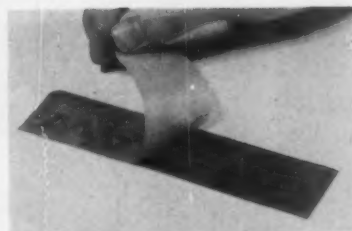
peratures, rough treatment and damaging solvents, foil labels are so light that Boeing Airplane Co. reports that more than 2000 of them can be applied to its larger craft without causing weight problems.

Used on Many Products

Today foil labels—as thin as 0.002"—can be seen on a wide variety of products in embossed, patterned, script and other forms. They are used to identify sporting gear, office equipment, and household appliances; designate ownership; provide control information; diagram electronic schematics; and carry point-of-purchase messages. The tapes used are designed for special adhering jobs. For example, Scotch brand adhesive transfer tapes are pressure-sensitive and designed for applications requiring instant adhesion by pressure on the label surface.

Having the greatest bond of all are heat-activated tapes composed of synthetic elastomers and thermosetting resins. Heat-activated labels—especially those which can be heated from 250 to 350°F.—become almost inseparable from the surface to which they are attached.

Only slight pressure is needed



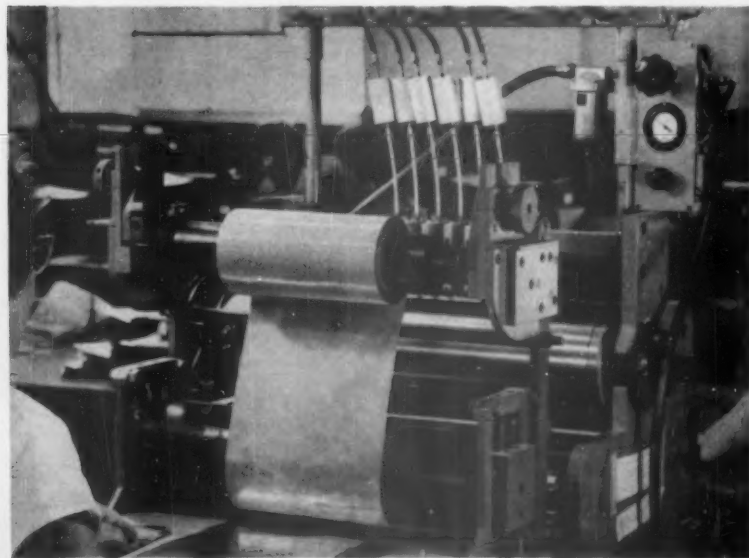
Scriptical process applies individual letters without background. After removing liner, the lettering is turned and pressed on surface, and tape backing is removed. Letters adhere to surface in same patterns as they were on tape.

to apply the pressure-sensitive labels. Bonding film tape can be easily activated with a small hand iron if heat is required—or with a brush, wick or similar applicator if solvent is needed.

Pieces Held in Place

Pressure-sensitive tapes also make it possible to provide permanent adhering foil in the form of individual letters or designs having no background plate metal. The process leaves only desired characters or symbols of a design on the foil. These separated pieces are held in place between a paper liner and paper tape. They can be applied by simply removing the liner, pressing the letters or designs against the surface with a manual roller or by hand, and then removing the tape. The letters or designs remain adhered upon tape removal, and in the same pattern and arrangement as they were when originally placed on the tape.

Tests show that tape-adhered devices retain their permanency even when exposed to severe abrasion and extreme environmental conditions; in temperatures as low as -63 F., humidity of 100% at 95 F.; and when sprayed with strong saline solution, they meet all U. S. military specifications.



Specially designed laminating machine is used to bond tape to aluminum foil during label manufacture. Tapes can then be used in many different applications.

For More Information about ad on following page
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GOWN BY FON TAYNE, STAINLESS



from creative Crucible

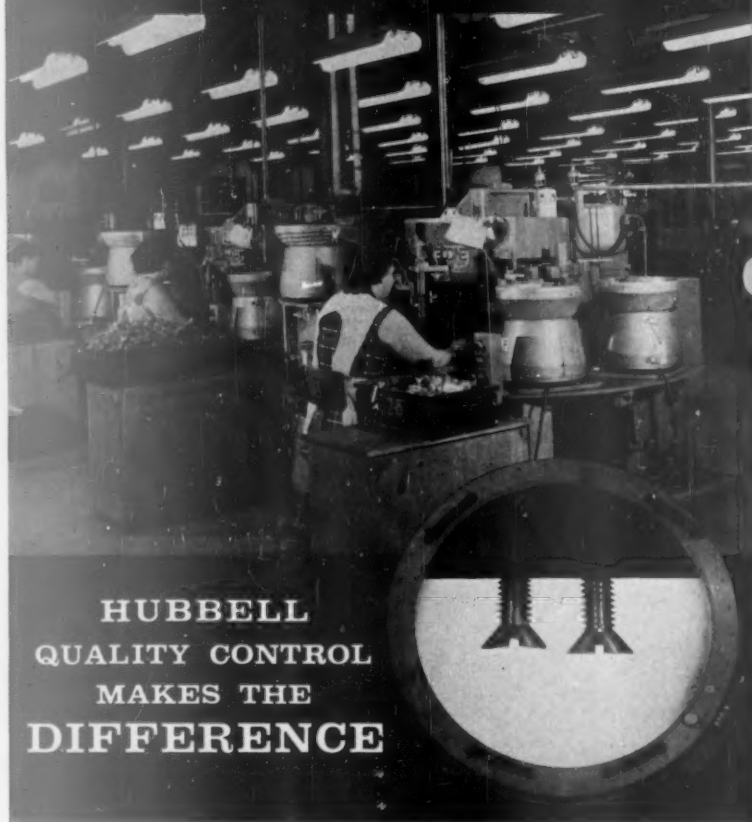
Where a fine finish is only the beginning

The lustrous beauty and unsurpassed finish of Crucible stainless steel will enhance the sales appeal of any product. Crucible's experienced metallurgists can help you select the most suitable type, form and finish, and the most efficient technique for fabricating. Add to this the convenience of Crucible's nearby steel service centers (34 throughout the country) and you'll find Crucible an unbeatable combination — for superior steel . . . service . . . and supply.

CRUCIBLE

Stainless Steel

keep 'em rolling



**HUBBELL
QUALITY CONTROL
MAKES THE
DIFFERENCE**

Without any warning, this smooth rolling production line could come to a screeching halt ... all because of one imperfect fastener. You've had it happen all too often. Suddenly an automatic machine clogs and everything stops dead and stays stopped until the clogged machine can be fixed.

Hubbell precision fasteners are your best insurance against production snafus like this, because they are quality controlled at every step of manufacture to provide as uniformly perfect cold headed products as is humanly possible. It's our job to weed out the duds like

the one at left in the view-master above, and supply uniformly perfect fasteners like the Hubbell one at right.

Contrast the two. Note how the Hubbell fastener at right is completely free of burrs or dirt that might jam an automatic machine. Also see how sharp and clean the threads are, and how deep and precise the slot. All these things add up to faster production, less down time, fewer rejects and a better end product.

Yes, if it's easier to fasten, it's easier and cheaper to assemble. Buy Hubbell precision fasteners and see.



Quality

FASTENERS

HARVEY HUBBELL, INCORPORATED

Machine Screw Department, Bridgeport 2, Connecticut

See the Hubbell Fastener Catalog in Sweet's Product Design File 7/Hu.

For More Information Write No. 189 on Place Mark Card—Page 32

Products

Coolant Pump for Shallow Reservoirs



A seal-less coolant pump is primarily designed for machinery having comparatively shallow reservoirs. Flange mounted type pump has one internal and two external discharges, right hand and left hand respectively. Unit will continue to pump until liquid level is at extreme bottom of the inlet port, minimizing any possibility of air locking even with frothing liquids. Pre-lubricated ball-bearing motor is 1/10 hp, with one-piece balanced shaft into the pump. Pump develops maximum pressure of 10 P.S.I.G. and capacity is 4 gals. per minute at 9 psig and 27 gals. per minute at 1 psig. **Ruthman Machinery Co., 1800 Reading Rd., Cincinnati 2, Ohio.**

Write No. 13 on Place Mark Card—Page 32

Improved Stainless with Boron

High neutron absorption and excellent mechanical properties are combined in a type 304 stainless steel containing up to 2% of the Boron 10 isotope. Alloy will be most useful for control rods, burnable poison and shielding for nuclear reactors. It offers improved design flexibility, while at same time increasing safety and reducing maintenance costs. With smaller amount of enriched Boron, it is possible to obtain good mechanical properties and corrosion resistance with no loss in nuclear properties. **Carpenter Steel Co., Reading, Pa.**

Write No. 14 on Place Mark Card—Page 32



Check out-of-town markets fast by Long Distance

Long Distance calls can save you time and money, especially if you need to reach out-of-town suppliers quickly. Calling is direct. You get the answers to your questions immediately.

You can also shop your markets thoroughly, keep a closer check on competitive prices, make better buys.

Long Distance is a valuable purchasing tool. Try it and see for yourself.

LONG DISTANCE RATES ARE LOW

Here are some examples:

Chicago to Grand Rapids	60¢
Pittsburgh to Cincinnati	90¢
Phoenix to Los Angeles	\$1.10
Birmingham to Washington, D.C. .	\$1.40
Houston to Newark, N.J. . . .	\$1.80

These are day rates, Station-to-Station, for the first three minutes. Add the 10% federal excise tax.

BELL TELEPHONE SYSTEM

Long Distance pays off! Use it now . . . for all it's worth!



For More Information Write No. 190 on Place Mark Card—Page 32



Elliott Company chooses *Porter* Silicone Tape for mechanical stability and extended motor life!

The Elliott Company, a division of Carrier Corporation, has developed the first really mechanically-adequate silicone insulation system—with "Porter" Silicone Tape. Vulcanized into a void-free homogeneous structure, "Porter" Silicone Tape provides outstanding mechanical and sealing properties for applications requiring class H insulation. In addition to flexibility and moisture protection, the Elliott "Fabri-Lastic" system provides durability and toughness as well as excellent thermal stability at high temperatures.

Thermoid Division offers the widest range of silicone tapes on the market today. And Thermoid Division engineers are available to work with you, as they worked with the Elliott Company, to develop Silicone tape with specific characteristics to meet your requirements.

For fresh stocks of "Porter" Silicone Tape or information on special design characteristics, write *Thermoid Division, H. K. Porter Company, Inc., 200 Whitehead Road, Trenton 6, N. J.*



Ask for this free brochure with actual tape samples.

THERMOID **PORTER** **DIVISION**

H.K. PORTER COMPANY, INC.

PORTER SERVES INDUSTRY with steel, rubber and friction products, asbestos textiles, high voltage electrical equipment, electrical wire and cable, wiring systems, motors, fans, blowers, specialty alloys, paints, refractories, tools, forgings and pipe fittings, roll formings and stampings, wire rope and strand.

For More Information Write No. 191 on Place Mark Card—Page 32

Products

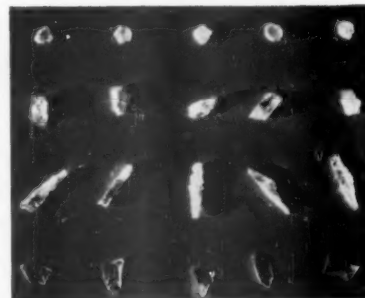
Large Size Metal Disposable Container



A large size disposable metal container for working pressures up to 240 psi is 5 in. in diameter by 16½ in. long and has 10 lb. water capacity. It is companion to 2, 3, and 5 lb. water capacity units in same line. Disposable container has wide application for refrigerants, fire extinguishers, aerosols, industrial and agricultural sprays, etc. **Tube Manifold Corp., 415 Bryant St., North Tonnawanda, N. Y.**

Write No. 15 on Place Mark Card—Page 32

Highly Improved Natural Diamond Grit



An improved natural diamond grit differs significantly in particle shape from conventional diamond grit. Called "Selected National Diamond" or "SND," material increases efficiency of resinoid wheels up to 30% in grinding of cemented carbides. Unlike conventional diamond grit, SND

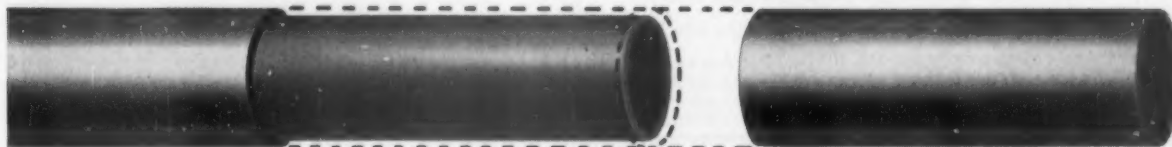
(Please turn to page 72)



*Call Carpenter**

**or your nearest authorized
Carpenter distributor**

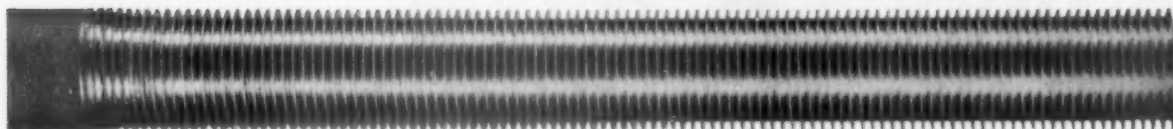
...*for BI-METALLIC TUBING



Carpenter Bi-Metallic Tubing is the single answer to dual corrosion problems in heat exchangers and condensers. Simultaneously it provides effective resistance to two different types of corrosive attack on tubing O.D. and I.D. surfaces. It is ideally suited for retubing existing heat exchangers, condensers and other heat transfer equipment where tubing of a single material throughout will not satisfactorily meet dissimilar corrosive conditions on the shell and tube sides.

It consists of full-finished stainless tubing mechanically bonded to the entire ~~W.D.~~ or O.D. surface of carbon, brass, copper, stainless or other alloy tubing to form a single unified tubular structure. A full range of heat exchanger sizes, gauges and lengths is available. Tube ends can be fitted with ferrules of the same metal as the inside tube for installation in tube sheets. Ask for Bulletin BMT.

...*for INTEGRAL-FINNED TUBING *Stainless and High Alloy Analyses*



Carpenter-Manufactured Integral-Finned Tubing offers significant operating and design advantages for heat transfer equipment operated in corrosive service conditions. It is a practical and economical means of increasing the effective capacities of existing plain-tube units. An appreciable reduction in the overall size of new heat transfer units is possible with Carpenter Integral-Finned Tubing, with resultant savings in materials and space.

Approximately $2\frac{1}{2}$ times greater external heat transfer area than plain tubing is obtained with Carpenter Integral-Finned Tubing. It is equally suitable for straight-tube and U-tube bundles, coils and other tubular arrangements needed for heating or cooling functions.

Produced from plain-surface full-finished stainless steel tubing of heat exchanger quality, Carpenter Integral-Finned Tubing has 16 fins per inch of length with standard height of 0.0575". Diameter of finned portion is 0" to 0.025" less than the diameter of the unfinned portions. Continuous or spaced finned sections can be supplied.

Lengths up to 25 feet are available in sizes, gauges and analyses generally required for heat transfer equipment. Send for Bulletin IFT.

Call nearest Carpenter office or distributor for quotations and delivery on Bi-Metallic and Integral-Finned Tubing, and for technical help with their application to fit your needs.

The Carpenter Steel Company, Alloy Tube Division, Union, N.J.

*your master key
to cost-saving
corrosion control*



Stainless Tubing & Pipe



"Customers' increased confidence ... is helping business."

HARTFORD DESPATCH & WAREHOUSE CO., INC., Cambridge, Mass.

"A new Anchor Fence really makes a difference! We have Anchor Fence at all four of our New England branches. Customers' increased confidence in the security of our warehouse facilities is helping business. Anchor's neat appearance spruces up the property and attracts customers. We are now able to store materials outside safely—a real saving. There has been a definite increase in safety, too. We can control traffic in and out of the plant as well as establish traffic lanes at the property."

Put Anchor Fence to work for you. Call your local Anchor Man today for more information. For free catalogue write: ANCHOR FENCE, 6615 Eastern Ave., Baltimore 24, Md.



Plants in: Balto., Md.; Houston, Tex.; Whittier, Cal.
Sold direct from factory branches in all principal cities.

For More Information Write No. 193 on Place Mark Card—Page 32

SPECIAL RIVETS

like some of the samples shown here ... or the more commonly used tubular and split rivets ... they're all alike to the American Rivet Co. And always—our own special brand of quality and service that gets you what you want when you want it.

THE AMERICAN RIVET CO., Inc.
849 N. Kedzie Ave., Chicago 51, Ill.

Write for price list. For specials, send specifications for prices.

BUY AMERICAN *Tubular and Split* **RIVETS**

For More Information Write No. 194 on Place Mark Card—Page 32

Products

(Continued from page 70)

consists mainly of needle-shaped and plate-shaped particles, which are held more firmly in the bond of resinoid grinding wheel. In addition, particles are more friable and tend to break off a little at a time, continually exposing new cutting edges. **Industrial Diamond Div., Engelhard Hanovia, Inc., 113 Astor Place, Newark, N. J.**

Write No. 16 on Place Mark Card—Page 32

Cage Type Roller Bearings



Two series of cage type roller bearings are designed for applications requiring maximum radial capacity. Both have relieved-end rollers to minimize high stress concentrations and fatigue at corners. Rollers are of square end type for maximum effective roller length and are retained in pockets of tubular steel cages to maintain alignment while running. **Orange Roller Bearing Co., Inc., 557 Main St., Orange, N. J.**

Write No. 17 on Place Mark Card—Page 32

Improved Permanent Magnet Alloy



An improved copper-nickel-iron permanent magnet alloy possesses

(Please turn to page 76)

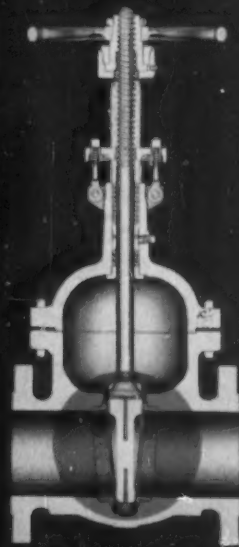
Reporting more news from...

CRANE DIRECTION '70

... a fast-moving program
of planned expansion,
product development,
and streamlined distribution
to help our customers
meet the challenge of the
Soaring Sixties.



NEW CRANE FLEXIBLE DISC



The most significant advance in gate valve design in 25 years...

CRANE FLEX GATES®

Instead of being made with a solid disc, new, patented Crane Flex Gates have separate disc faces, connected by the axle-like unit shown in the cross section. This joins the two seating faces, yet provides flexibility for the faces to seat tightly with independent action.

BECAUSE THEY'RE FLEXIBLE, new Crane Flex Gates seat with less torque.

BECAUSE THEY'RE FLEXIBLE, new Crane Flex Gates unseat with less torque... will not stick closed even when closed while hot and allowed to cool.

BECAUSE THEY'RE FLEXIBLE, minor deflection of seating faces due to pipe strains does not affect tightness of Crane Flex Gates.

BECAUSE THEY'RE FLEXIBLE, new Crane Flex Gates are tight on inlet seat and outlet seat over a wide range of pressures.

BECAUSE THEY'RE FLEXIBLE, new Crane Flex Gates can be used singly in some services where two conventional gate valves are frequently specified. You can save substantially on piping costs.

BECAUSE THEY'RE FLEXIBLE, new Crane Flex Gates can be serviced—body seat rings replaced or seating faces

refinished—quickly, and without painstaking accuracy. Slightly off-taper seats do not affect tightness or operating ease.

BECAUSE THEY'RE FLEXIBLE, new Crane Flex Gates will easily outperform any conventional solid wedge disc valve you now use. *And there's no increase in price.*

BECAUSE THEY'RE MADE BY CRANE, these new Flex Gates are completely dependable. You can use them with complete confidence on steam, water, gas, oil or oil vapor service. Stem and disc seating faces are Crane Exelloy. Shoulder-type body seat rings are Exelloy or Crane No. 49 Nickel Alloy. Sizes: 12 inch and smaller; 150- and 300-pound pressure classes.

Ask your Crane Distributor for full information on Flex Gates—and for data whenever you work with the products Crane makes. He has the newest in information and products. Crane Co., Industrial Products Group, 4100 South Kedzie Avenue, Chicago 32, Illinois.



VALVES • ELECTRONIC CONTROLS • PIPING • PLUMBING • HEATING • AIR CONDITIONING

*Thousands of homemakers
are asking for it!*

THE ORIGINAL

no-Knot Heat-Appliance COILED CORD



Now you can give them this pre-sold functional improvement...and increase sales, too!

A convenience proven on a million phones... Coiled Cords will now give your appliances the same extra mass appeal.

Coiled Cords provide housewives with safer neater work areas; are self-storing and bacteria resistant. Made of heavy duty cord, they are quality produced for extra-long service. No need to redesign your products... add no-Knot Coiled Cords anytime! Available in plastic and color.

"SAFETY FLIES A FLAG"

HPN (HEATER) TYPE COILED CORD

Extra-heavy Neoprene jacket. Permanent flexing qualities. Extra thick insulation. Cord resists food chemicals, odors and may be wiped clean without damage to coil action.



TYPE SP COILED CORD

Available in SP-2 Type for fans, blenders, TV, radio, Hi-Fi, small hand tools and grooming devices.



TYPE SV COILED CORD

Ruggedly constructed to reduce probability of cord replacement. Applicable to vacuum cleaners, portable and stationary food mixers, etc.



TYPE SJ COILED CORD

Add another element of safety when applied to heavy power tools, radial saws, hand drills and pin-spotters.



Miniature female portable food mixer attachment plug

116 Miniature plug

216 Attached eyelets

316 Standard plug

416 Extension type

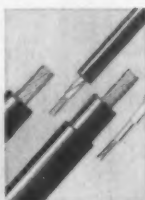
Cords to fit heat probe elements

OTHER ESSEX ENGINEERED CONTROL COMPONENTS

Wire and Cable

A complete line of appliance wiring material, radio, television and electronic hook-up wire, 200° C high temperature Sil-X wire, automotive wires and cables, and flexible cords.

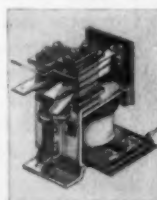
Essex Industrial Wire Products, Wire and Cable Div. Essex Wire Corp. Marion, Indiana



RBM Relays

Low cost, high quality relays: general purpose, open and hermetically sealed, motor starting, AC industrial contactors and starters for Communications, Electronic and Appliance industries.

R-B-M Controls Div., Essex Wire Corp. Logansport, Ind.



Industrial Plastics

Flexible and rigid vinyl extruded shapes and foam custom designed and volume manufactured to meet your exact needs. Now producing for a variety of industrial applications.

Carolina Industrial Plastics Div. Essex Wire Corp. Mount Airy, North Carolina



CORDS LIMITED
Division ESSEX WIRE CORPORATION
DeKalb, Illinois

Write for samples or see your Cords, Ltd. application engineer!

In
fasteners
for
industry...

it's dependability that counts!

Yes, life often rests on the dependability of the fastener.

Whether for bridges, pressure piping, skyscrapers, railroads, transformers or tunnels... or even your personal car, it's the *dependability of the fastener* that counts. The fastener must be *stronger... more dependable* than the part.

When you visit our manufacturing facilities and control laboratories, you will see for yourself how we build dependability into our **IMPACT-FORM'D** nuts, bolts and screws.

IMPACT-FORM'D Screw and Bolt fasteners are produced to customer demand every day:

- free- or interference-fit rail bolts
- high strength heat treated bolts for heavy construction
- close tolerance components for machinery
- screws for electronic equipment and accessories

Whether you follow industry standards or have your own specifications, **IMPACT-FORM'D** Screw and Bolt fasteners have the *dependability* you need.

VMA 6997

SCREW AND BOLT CORPORATION OF AMERICA

P. O. Box 1706
Pittsburgh 30, Pa.

DIVISIONS: Pittsburgh
Gary · Southington Hardware
American Equipment



America's Most Complete Line of Industrial Fasteners

For More Information Write No. 197
on Place Mark Card—Page 32

Products

(Continued from page 72)

high coercive force and energy product values as well as excellent ductility, malleability and machinability. Special production technique gives greater uniformity, and alloy can be readily stamped, machined or otherwise formed by conventional methods into a wide variety of complex, close-tolerance, intricately shaped parts which require no costly finishing operations. Alloy is available as finished magnets or as wire and strip in many sizes, shapes and widths. **Hoskins Mfg. Co., 4445 Lawton Ave., Detroit 8, Mich.**

Write No. 18 on Place Mark Card—Page 32

Bi-Color Panel Lights Add Eye Appeal



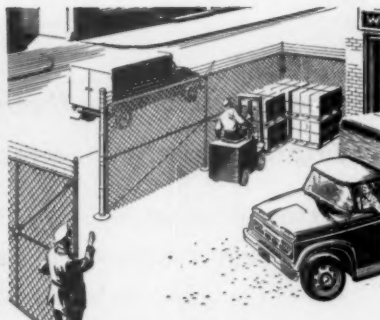
A subminiature panel indicator light that is white when unlit and colored when lighted is intended for applications where uniformity and eye appeal of panel design are important. "Color-Lite" lampholder accepts #327 and #328 bulbs, mounts in 3/8 in. diameter hole and is available in five standard colors, red, white, blue, green and amber. **Color-Lite Div., Sloan Co., 7704 San Fernando Rd., Sun Valley, Calif.**

Write No. 19 on Place Mark Card—Page 32

Scale Makes Large Item Weigh-Count Practical

A variable ratio counting scale combines the convenience of direct reading from a counting beam with the flexibility of counting large items rapidly. Scale is particularly adaptable where items

(Please turn to page 80)



About that property
of yours...

PAGE FENCE

These 3 VALUES are important

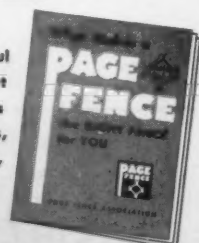
1. QUALITY is important. When you invest in a fence you want it to last for a long, long time. When you specify **PAGE** you get 77 years of our experience in the design and manufacture of a quality fence. **Page Fence** is engineered for long-lasting service and is covered by a Registered Certificate of Quality.

2. WIDE CHOICE is important. For example, we offer a choice of 4 chain link fabrics—**ACCO-Aluminized**, our latest development, or galvanized steel, stainless, or solid aluminum. Each of these has characteristics which meet individual preferences or make it more suitable to meet certain climatic or service conditions. Furthermore, there are 8 basic fence designs and 6 gate styles. No other company can serve you with so wide a selection.

3. INSTALLATION is important, too. A fence can be no better than the quality of its erection. The **Page Fence** Member in your locality is trained, experienced, responsible, and interested in your satisfaction.

When you write us, we'll send you the whole story in a helpful booklet, and the name of our nearest Member. Call him, he will gladly suggest the best answer to your property protection problem.

Helpful
booklet
describes
fence styles,
gates and,
components

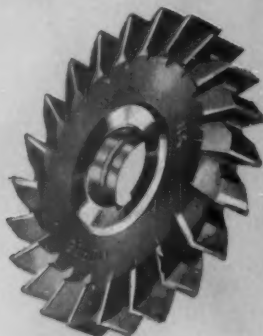


PAGE FENCE ASSOCIATION
National Headquarters · Monessen, Pa.
A product of **Page Steel & Wire Division**
American Chain & Cable Co., Inc.

For More Information Write No. 198
on Place Mark Card—Page 32

PURCHASING

MORSE DISTRIBUTORS GIVE YOU "ALL THE MOSTS"

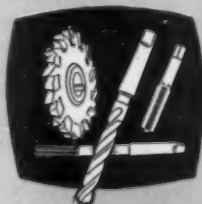


Only Morse-Franchised Distributors have
The Combination That Counts in cutting tools—line, quality,
same-day delivery, technical help, finest research backup!

Whenever you have a cutting tool need—whatever tool problems you encounter—the *first* man to contact is your local Morse-Franchised Distributor. He's the man with "*all The Mosts*" in the cutting tool field—he serves you fastest with the best!

In fact, right now his local stocks are so extensive you can phone him, order the popular Morse tools you need, get them *in hours*. Try it—call your Morse-Franchised Distributor now!

Morse means more production...smoother, more accurate production...with every type of cutting tool from drills, reamers, taps and dies, to end mills, milling cutters, slitting saws and "specials". So, if you want the best from every cutting tool you buy, mark your order "MORSE". For if you want Morse Quality, there's only one way to get it...specify Morse.



MORSE

means "THE MOST" in Cutting Tools

MORSE TWIST DRILL & MACHINE CO., NEW BEDFORD, MASSACHUSETTS
Warehouses in: NEW YORK • CHICAGO • DETROIT • DALLAS • SAN FRANCISCO

A Division of VAN NORMAN INDUSTRIES, INC.

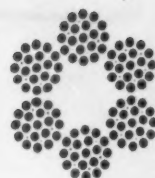


For More Information Write No. 199 on Place Mark Card—Page 32

JULY 4, 1960

For More Information about ad on following
page Write No. 200 on Place Mark Card—pg. 32→

Manila Cordage

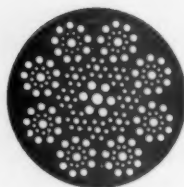


6 x 25 Type W

Alloy Chain Sling

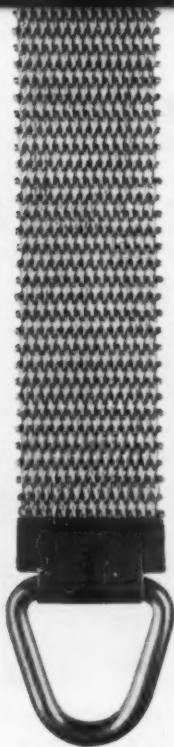
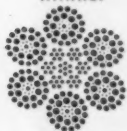


between the hook



8 x 19 Type K
CenterFit

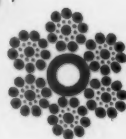
6 x 41 Type D
I.W.R.C.



Woven Wire
Belting



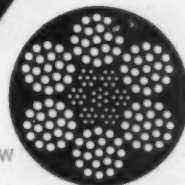
Two-Legged Jalklump
Bridle Sling



6 x 19 Seale Patent
SpringKore



Safety-Weave
Nylon Web Sling



6 x 25 Type W
I.W.R.C.

and the load...it's J & L

It's J&L all the way between the hook and load, because the complete J&L line covers every lifting need. The illustrations here are only a sample. J&L hand and power hoists are not shown. Nor are many other ropes, slings, fittings,

assemblies and accessories... stocked and sold by your J&L Distributor, for complete safety in lifting.

But, illustrated or not, you'll find in the Jones & Laughlin line everything you want for all your lifting jobs.

Your J&L distributor has the complete lifting line for complete safety

Your authorized J&L Wire Rope Distributor is fully equipped to help you. He can provide you with any item from the complete line and can give fast service, too—right down to securing *while-you-wait* fabrication and repair of alloy chain slings with JalLink (another exclusive J&L development).

In addition, if you are faced with an unusually tough lifting operation, he can arrange for skilled J&L engineers to help you. They'll advise on the best method—or even design a lifting mechanism specifically to meet your problem.

Hundreds of J&L Distributors give you all the advantages of local, personal service, *plus* the delivery back-up of 15 J&L Wire Rope Service Centers *plus* the applications help of J&L factory engineers.

When you select from the complete J&L line, you get more than what you need between the hook and the load. You also get service, safety and confidence in lifting—because it's Jones & Laughlin.

Call your J&L Wire Rope Service Center or Wire Rope Distributor—they're in the yellow pages.

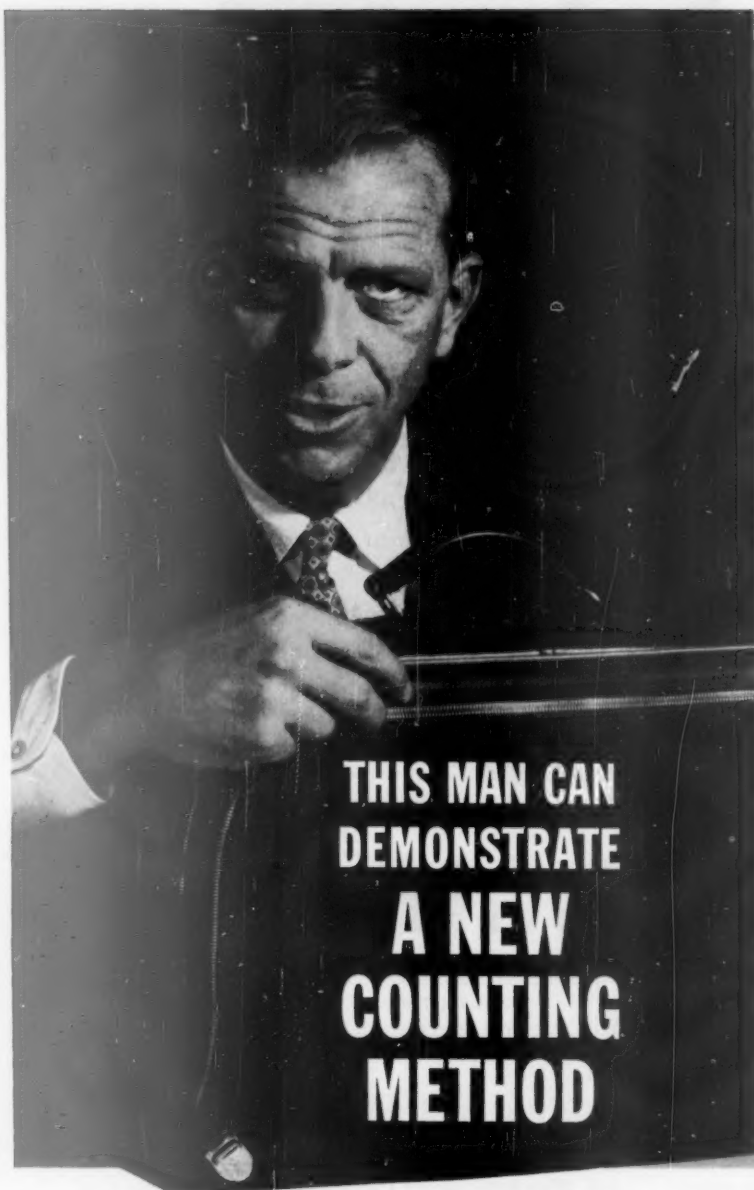
FOR SAFETY IN LIFTING



Jones & Laughlin Steel Corporation •
WIRE ROPE DIVISION
MUNCY, PENNSYLVANIA

Steelmark signifies superior quality and service from products made of steel. Place Steelmark on all your steel products.





THIS MAN CAN DEMONSTRATE A NEW COUNTING METHOD

... right in your own office!

Mr. Purchasing Agent — Let us have 15 minutes of your time — that's all it'll take to put on the Veeder-Root "DESK-TOP DEMONSTRATION" — an actual performance of how Veeder-Root Electronic Counters will improve your production records, improve your product. Let us show you how Veeder-Root Electronic Counters can measure quantities, lengths, liquids; count odd-shaped objects; actuate machinery; measure batches. Let us show you new counting methods utilizing Electronic Counters to count, measure, actuate — rapidly, accurately, from remote locations, with complete flexibility, with minimum maintenance.

Make sure you see the Veeder-Root "DESK-TOP DEMONSTRATION". Just call your nearby Veeder-Root branch office, or write direct. Your Veeder-Root sales engineer will be glad to put on the demonstration at your convenience.

Veeder-Root

ELECTRONIC CONTROLS DIVISION
DANVERS, MASS.

"The Name that Counts"



Hartford, Conn.
New York • Chicago
Los Angeles
San Francisco
Seattle • St. Louis
Greenville, S. C.
Altoona, Pa. • Montreal
Offices and Agents in
other principal cities

For More Information Write No. 201 on Place Mark Card—Page 32

Products

(Continued from page 76)

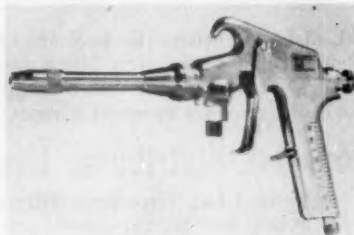
to be counted are too large to make weigh-counting with small fixed ratio pans practical. Movable variable ratio pan will provide a count using only a minimum number of pieces. In addi-



tion, a fixed ratio pan is provided for use in conjunction with variable ratio pan to determine higher quantity counts. Scale is also adaptable for manual weighing operations. Toledo Scale Corp., Toledo 12, Ohio.

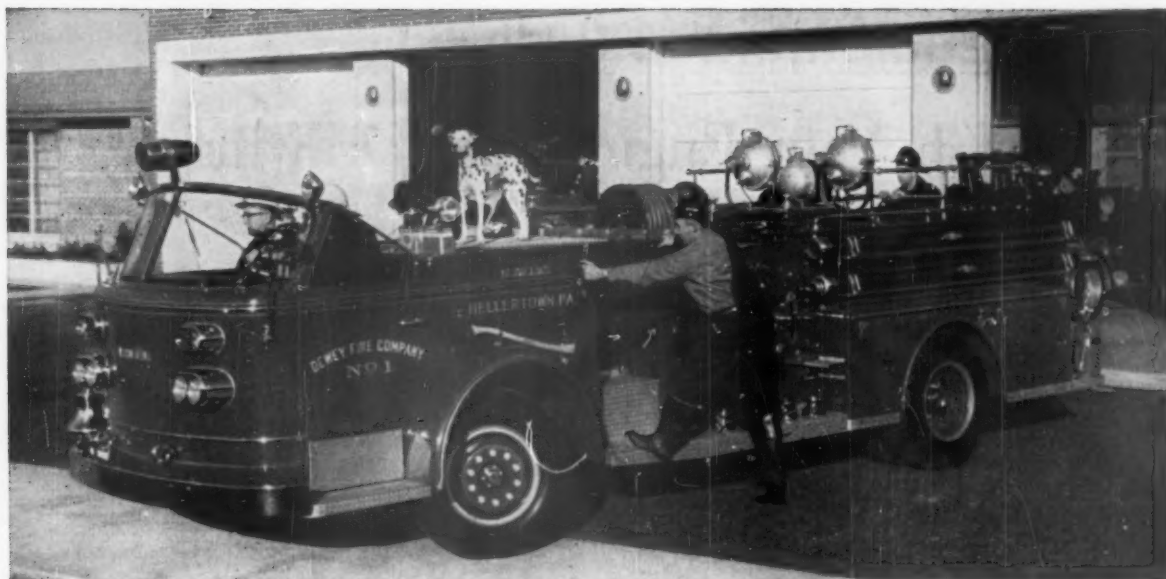
Write No. 20 on Place Mark Card—Page 32

Cleaning Gun with High Velocity Spray



A pressure type cleaning gun with a high velocity spray is intended for use in factories, foundries, and maintenance shop wherever fast, thorough cleaning and degreasing are necessary. Driving spray which will knock off dirt and provide coarse, hard-hitting drops to penetrate built-up films is also adjustable for full range down to gentle mist. Extension nozzle permits spraying into cavities and other hard-to-reach areas. Lightweight gun is easy to handle and can be used with all common cleaning and degreasing materials. The DeVilbiss Co., Toledo 1, Ohio.

Write No. 21 on Place Mark Card—Page 32



American-LaFrance pumper at Dewey Fire Co. No. 1, Hellertown, Pa.

Sheet Steel to the Rescue!

Who doesn't thrill to the flashing color and competent power of a modern fire engine roaring by on its errand of mercy?

Hard-working trucks like these need husky steel to safely haul their cargo of men and fire-fighting machinery. Bethlehem supplies hot-rolled and

cold-rolled sheets to most of the makers of fire apparatus and fire-protection equipment.

If your product involves sheet metal, steel is the material with which to design and work. You can always count on Bethlehem sheet steel for top quality. Our engineers will be glad to work with you.



For strength
... economy
... versatility

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.
Export Distributor: Bethlehem Steel Export Corporation

BETHLEHEM STEEL



Mack C95F pumper for City of Lapeer, Mich.



Office Equipment and Supplies

Wash Your Engineering Drawings

WASHING of original tracings is expected to save the Missile Systems Division of Raytheon Co. thousands of dollars a year by eliminating "re-draws."

The technique: When engineering drawings build up layers of grime and soil to the point where they are no longer printable, Raytheon simply washes them with mild soap and water—and they are good as new.

The wash method is based on the use of a waterproof drafting material from Keuffel & Esser Co. and a washable plastic pencil. The drafting medium has a surface which is equally good with pencil or ink.

The washable pencil line is obtained from a new pencil developed by the Staedtler Pencil Co. especially for use on such drafting films. It deposits a plastic rather than a graphite line.

A drafting practices committee was established at Raytheon to select a material which would be durable and reproducible under extended usage.

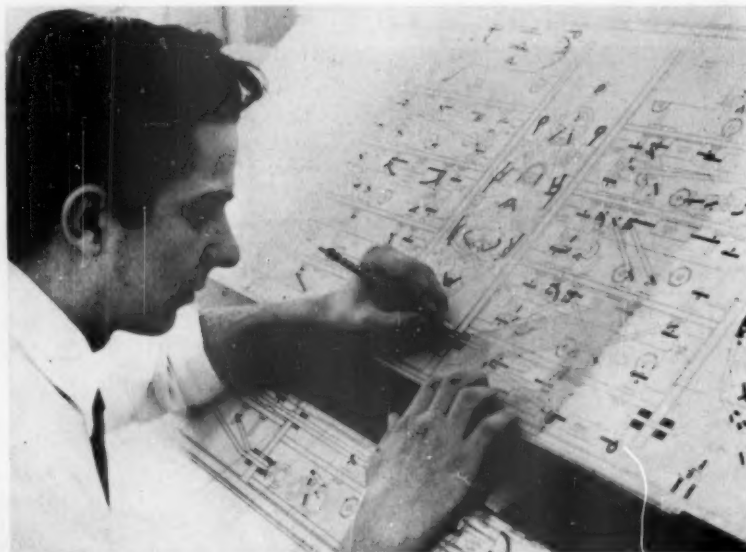
The tests performed by the committee included:

- Dirty some original drawings until they were barely legible, wash and make prints.
- Make prints from drawings which were washed many times.
- Wrinkle and crease the sheets, smooth them out and make prints.
- Tape a sheet to the floor to be walked on and rolled over by a swivel chair.
- Bake a sheet in an oven and immediately subject it to extreme cold.
- Pour scalding coffee on a drawing and let it stand for two hours.

With the results of the "torture tests" tabulated the drafting practices committee convinced management that the new material was the answer to the problem of durability and reproducibility of drawings.



Engineering drawing which was deliberately soiled with graphite smudges, dust, fingermarks, and hot coffee is washed with mild soap and water. The washing returns it to original sharpness and printability.



Clarity of engineering drawings is most important. New drafting film from Keuffel & Esser will take a washable plastic line, graphite, ink, or pencil. Draftsman is using the new plastic pencil.



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to make and write more credit sales. We are delighted with the job NCR Paper is doing for us.

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Association News

International Cooperation In Purchasing

By J. R. Blinch

THE WORLD grows smaller every year. The spectacular advances in travel which have occurred in recent years are making much easier the personal contact between business men which is such a necessary lubricant to international trade. In Europe, purchasing is keeping pace with this trend through the efforts of the European Federation of Purchasing which, although less than two years old, is beginning to produce some tangible results.

The most striking of these results to date was the success of the Federation's European Purchasing Conference held at Scheveningen, Holland, when nearly 250 buyers, drawn from 16 different countries (including four U.S. citizens on European duty for their companies) took full advantage of the opportunity to exchange views on a wide range of purchasing subjects.

The Federation consists of the professional purchasing agents associations in Belgium, France, Germany, The Netherlands, Norway, Sweden, and the United

Kingdom, which between them have in membership nearly ten thousand industrial buyers.

One of the objects of the Federation is to encourage purchasing agents to set up and develop their own associations in those European countries where they do not yet exist. As a result of the attendance at the conference of a party of buyers from Austria, Denmark, and Italy, it is hoped that associations in these countries will soon be formed.

The principal object of the Federation is to promote and support the development and improvement of both the practice and the science, as well as the standing and ethics, of purchasing as a basic and distinct function of the management structure. The Federation's role in this field is really to provide a medium through which its member bodies can draw encouragement and advice, because it is through these various national bodies that the impact of purchasing upon management can best be made.

Another object is to provide a

body recognized as the one through which the purchasing function can be represented in European affairs. The Federation is still too young to expect to achieve anything very much in this way, but as it grows in strength and activity recognition is bound to come.

In the publications field, the Federation is also becoming active. A quarterly bulletin, distributed to each member and student of the respective associations, appeared for the first time in January. Although it is at present of quite modest proportions, it will soon grow in size and quality. It contains business reports from each of the countries in the Federation, and abstracts of a selection of papers on purchasing topics which have appeared in various countries.

To get back to the conference: the most encouraging feature was

(Please turn to page 86)

Mr. Blinch is secretary of the European Federation of Purchasing and director of the Purchasing Officers Association (United Kingdom).



Members of the managing committee of the European Federation of Purchasing listening to P. Gros (center) when he opened the recent conference in Holland. They are (left to right): W. G. Nooy, Holland; J. R. Blinch, United Kingdom; I. Bergqvist, Sweden; H. Rump, Germany; Mr. Gros, France; F. Smithuysen, Holland; H. Golle, Germany; A. Rambaux, France; and D. Keith, Sweden.

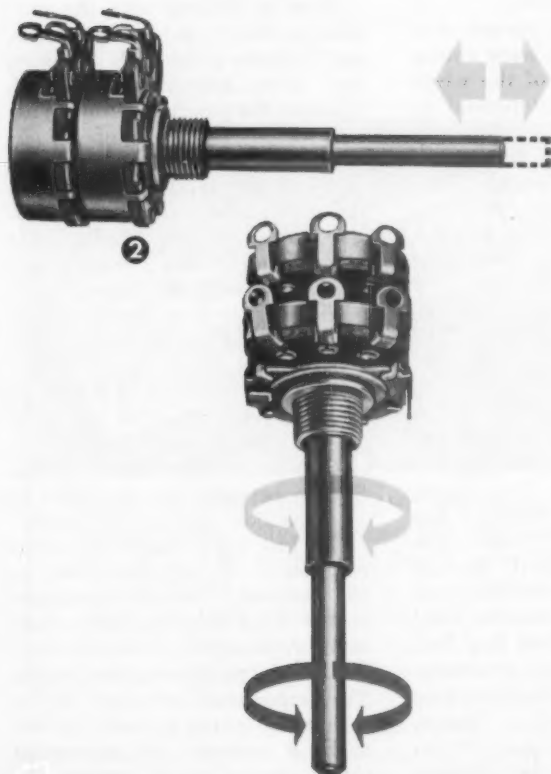


NEW CONTROLS FOR STEREO

Flexibility without Complexity

Even a wife can appreciate the major points of these special dual-element controls for 2-channel stereo equipment! No longer is it necessary to fiddle with 2 bass controls, 2 treble controls, and 2 volume controls to obtain proper stereo balance—then re-adjust everything when listening to monophonic material. No longer, that is, unless you're an ardent audiophile who would have it no other way.

For these new Stackpole controls "clean-up" the panels of stereo equipment, make them easier to operate and understand . . . yet retain all the flexibility of individual adjustments required on the most elaborate equipment.



1 FRICTION SHAFT DUAL—Type LS3: A friction fit between shafts causes both elements of this dual concentric shaft control to operate in tandem when either shaft is turned. Either element can also be adjusted independently by holding one shaft while rotating the other. Once set, either knob can be turned while maintaining stereo balance through a wide range of adjustment.

2 CLUTCH SHAFT DUAL—Type LS1: This wonderfully convenient control allows either simultaneous or individual adjustment of its two elements. A push on the inner shaft engages a clutch which connects both elements together for tandem operation by either shaft. Pulling the inner shaft permits each element to be individually adjusted without disturbing the other.

3 MATCHED ELEMENT TANDEM—Type L-Tandem: Through precise electrical matching and careful mechanical alignment, this stereo tandem control allows convenient, single-knob adjustment of both channels. It's ideal for adjustment of master volume or of bass or treble in systems where an absolute minimum of panel complexity is desired.

STACKPOLE

Coldite 70+® fixed composition Resistors • Slide & Snap Switches • Ceramag® Ferrite Cores • Fixed composition Capacitors • Ceramagnet® Ceramic Magnets • Electrical Contacts • Brushes for all rotating electrical equipment • Hundreds of related carbon, graphite, and metal powder products.



Mechanical and electrical specifications on these dependable 0.75-watt variable composition resistors are available on request. Electronic Components Division, Stackpole Carbon Company, St. Marys, Pa.

Association News

(Continued from page 84)

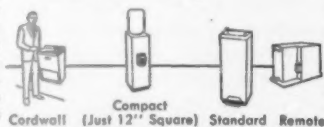


How Do You Look At A Water Cooler?

They may look similar — all quench your thirst. How do you choose the one to buy? Viewed from any angle, your best bet is the manufacturer's long-term reputation for service and satisfaction.

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Your nearby distributor can help you select the best cooler for you from Cordley's complete line. Look for him in the Yellow Pages.



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on Place Mark Card—Page 32

the manner in which the different nationalities mixed together, and resisted the temptation to remain in their national groups. During one whole afternoon the conference was split into groups of ten members of different nationalities, each discussing, in a common language but not their mother tongue, a series of problems shared by buyers all over the world, including such topics as, "Value of Exhibitions," "Speculation," "Reciprocal Trading," "Training," "Relationship between Buying and Stores Control," and "Promotion of Enthusiasm in the Purchasing Department."

It was generally agreed that these small meetings were among the most successful of the whole conference. Language proved no barrier to a fruitful exchange of views at these discussion, while at the other sessions the efficiency of the interpretation was considerably aided by the wireless type of simultaneous translation equipment.

The three main conference papers were concerned with "The Organization of a Purchasing Department and the Selection and Training of Personnel," "The Relations Between the Purchasing Department and Other Departments," and "The Purchasing Officer's Relations Outside His Own Organization." They were given respectively by J. Murray Grammer, director-general of purchasing and stores, National Coal Board, United Kingdom; Reg. Rat. a. D. Hanns Rump, president, Bundesverband Industrieller Einkauf, Germany; and J. Rieur, secretary-general, Union Française d'Engrais et Produits Chimiques, France.

In describing how the British National Coal Board had established its purchasing and stores department, Grammer said that the first requirement had been to make absolutely clear what the object of the department was to be. This object had been defined by the N.C.B. as follows:

"To provide a service to line management so that the requirements of using departments are met

while at the same time the Board's purchasing, contracting, and control of stores are properly managed with the maximum economy for the industry as a whole."

In discussing the relations between purchasing and other departments, Rump emphasized that they were not only functional, but human. The fundamental cause of strained relations was the lack of appreciation of the role and responsibilities of purchasing. If the buyer kept his work "transparent" so that others knew what he was doing, he would greatly reduce the danger of friction.

Rieur, in dealing with the purchasing officer's external relations, said that the psychology of selling had been abundantly studied, whereas the psychology of buying was still largely unexplored. Selling as an activity was extensive in space and time, whereas buying was concentrated in a definitive choice of one supplier at a given moment. The initiative was essentially with the buyer.

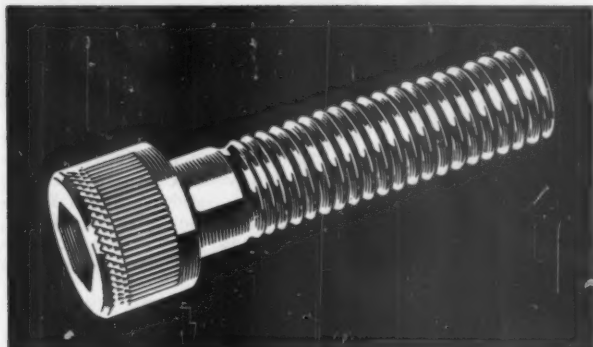
There were three levels of contact between buyer and seller: the physical, involving the determination of whether and how to meet; intellectual, how and what to talk about; and documentary, how to record. The degree of confidence between the two sides to a transaction was of importance.

To close the proceedings, a representative of each association in the Federation gave a five-minute report of the progress being made in his own country in the development of the purchasing profession. The importance attached to the training of young entrants proved to be a common and reassuring theme throughout all reports.

In the final report, that of the Federation itself, it was pointed out that buyers who come to the periodic conferences, which it is intended to arrange every alternate year, would build up a body of friends in buying all over the continent, who would be glad to give advice when some one encounters awkward purchasing problems. Through the Federation, the horizons of buyers in Europe are being pushed back.

Behind the new UNBRAKO cap screw's
extraordinary value...

4 GIANT STEPS

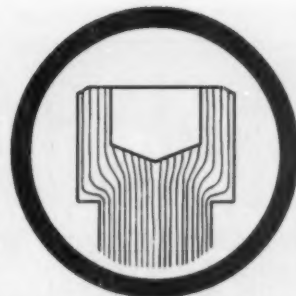


IMPLICATION: UNBRAKO pHd with Hi-Life threads—the only advanced fastener for the 60's—has as much strength as modern technology can develop. It is substantially stronger in the head and in the thread. More, all of the pluses in it are yours at no extra cost. No wonder, then, that this new UNBRAKO is an extraordinary value. And your authorized industrial distributor has it on his shelves right now. Standard Pressed Steel Co. INDUSTRIAL FASTENER Division, SPS, Jenkintown 31, Pa.

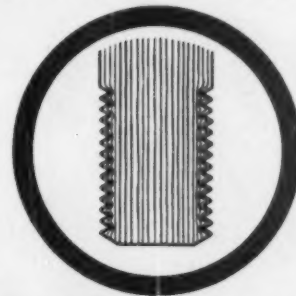
SPS

where reliability replaces probability

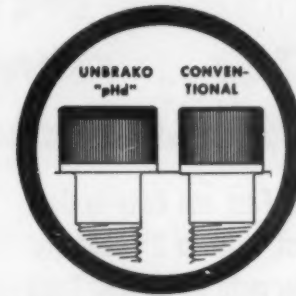
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1. When research revealed that fatigue failures in socket head cap screws were most likely to occur where the natural lines of strength in the metal were cut by *machining*, SPS began *forging* the heads of UNBRAKO cap screws. This maintained the flow lines of the metal and thus increased fatigue strength.



2. Next SPS eliminated cutting or grinding threads. Threads are now fully formed—pressed in by precision dies to maintain good flow lines for greater strength.



3. Evidence that the standard cap screw did not have enough load bearing area under the head triggered the development of the UNBRAKO pHd* feature, with its larger head diameter that increased load carrying capacity up to 233% and, consequently, requires fewer screws per assembly.

*pHd—"proper head design" (1960 series)



4. Thread roots—with sharp corners where fatigue failures so easily start—also cried out for improvement. And so was born the UNBRAKO Hi-Life thread form, with its *smoothly radiused* root that reduces stress to a minimum, distributes the remaining stress evenly, and increases fatigue life up to 100%.

Biggest
"threading machine"
Bargain!



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RIGID No. 310 Carriage, made of strong aluminum alloy, slides smoothly on drive support arms . . . holds die head and cutter ready for

instant use. Snugs up tight to chuck for close threading and cut-off.

RIGID 535 Quick-Opening Die Head, shown here, threads 1/8" to 2" pipe with just 2 sets of dies . . . adjusts to size right in machine . . . no fumbling for right size threader . . . no slow back-off. All other **RIGID** Machine Pipe and Bolt Die Heads can be used. Add a **RIGID** No. 19 Nipple Chuck, and you can thread close nipples.

RIGID 360 full-floating Cutter has slide action that adjusts to all pipe irregularities . . . wide rolls for straight cuts at machine speed. Capacity: 1/4" to 2" pipe and conduit—3/8" rod. E-1032 wheel for 1" rod available.

See and try this time-and-work-saving
RIGID 300 group at your
Supply House!



For More Information Write No. 207 on Place Mark Card—Page 32

Association News

Aircraft, Electronic And Missile Group Formed In Cleveland Association

Plans have been completed for an Aircraft Missile Procurement and Buyers Group in the Greater Cleveland area. It is sponsored by the Purchasing Agents Association of Cleveland. The new group held its first meeting recently to elect officers and set up aims and objectives.



Officers of the new group are: (left to right) Wendell Wilber, Lear-Romec Division, Lear, Inc., chairman; Harold Sanders, Pesco Products Division, Borg-Warner Corp., vice chairman; and James P. Carson, Air-Maze Corp., secretary-treasurer.

The meeting was very successful and well attended. The aims and objectives which evolved are:

- Promote progressive purchasing for aircraft, electronic and missile equipment manufacturers and producers.
- Facilitate common interest and approach to mutual problems.
- Stress economy in aircraft, electronic and missile purchasing.
- Formulate standards for purchasing personnel in an effort to effect economy.
- Educate and appraise members of trends, costs and technological advancements.
- Correlation and trends of military and defense procurement.

David M. Bing, purchasing methods analyst, Cleveland Air Procurement District, was the speaker at the organizational meeting. He pointed out the careful procurement program his group has undertaken, what part

the purchasing methods analyst plays in it, what degree of purchasing efficiency can be obtained, and such other topics as management's attitude.

About 30 companies in the Cleveland area were contacted in regard to the new group and many showed great interest in the new project.

University of Wisconsin Materials Management Seminars Highly Successful

About 50 midwestern purchasing men recently attended a series of conferences on materials management held by the Management Institute of the University of Wisconsin.

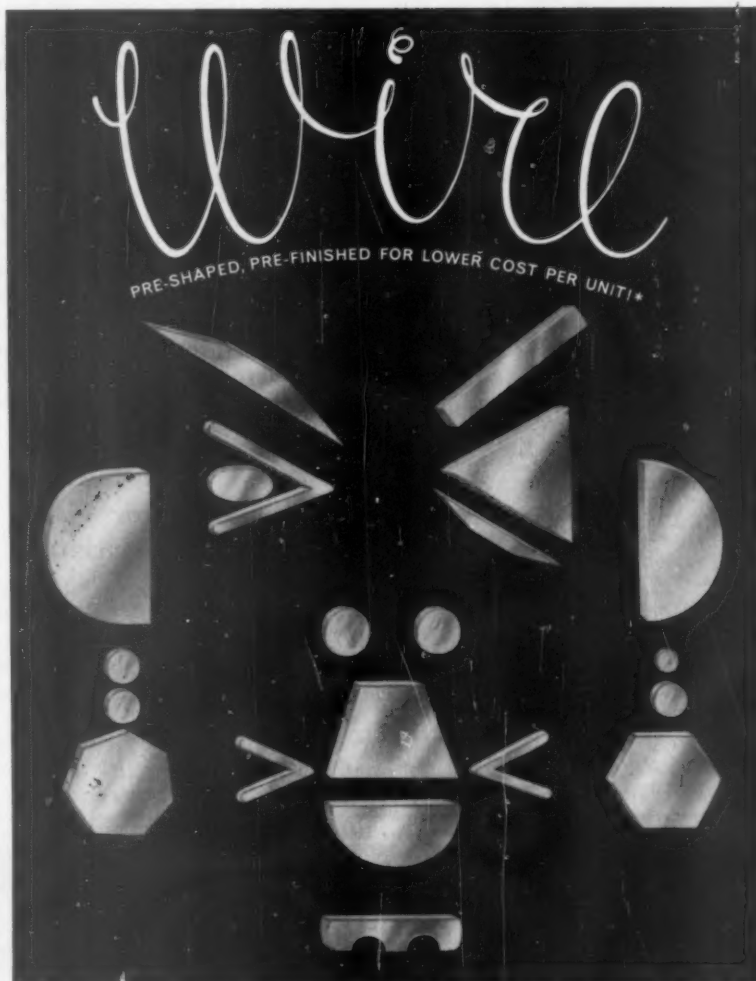
The last three conferences of the six-part series were led by W. P. Stilwell, assistant director of the institute, on "Directing the Materials Management Department"; K. L. Block, partner, A. T. Kearney and Co., on "Coordination and Control of Materials Management"; and the final conference was led by Jack D. Walter, manager of materials, Television Receiver Dept., General Electric Co., Syracuse, N. Y., on "Purchasing Agent versus Materials Manager".

The Purchasing Agents Association of Milwaukee is the guiding force behind the conferences. Proof of their success is evidenced by the enthusiastic response of those who attended and asked for another one next year. Though final plans have not been made, the 1960-61 series will supplement the one just completed.

Public Purchasers In Wisconsin Hold Full-Day Seminar

The Wisconsin Association of Public Purchasers met for one of their regular full-day meetings recently in Madison, Wisc. George H. Harb, chairman of Dave County Board of Supervisors, was the opening speaker on the program.

Filled with enthusiasm, the participants spent most of balance
(Please turn to page 90)



* Examples shown are greatly enlarged cross-sectional views of selected standard and special shapes available

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Association News

(Continued from page 89)

of the morning on the single subject, "Cooperative Purchasing Through The State Bureau of Purchases." William Boyd, Board of Education, Milwaukee, told of the experiences of tax-supported agencies and municipalities in other states with this subject.

Mr. Boyd urged full cooperation with the State of Wisconsin purchasing department so as to take full advantage of large quantity purchases.

Herbert J. Schmiede, director of the bureau of purchases discussed how such a program could work. He said, "Informal contracts have already been made by many Wisconsin municipalities and school boards through the cooperation of our office with vendors who are willing to extend prices and terms of the state contracts to local units of government."

The State director pointed out that legislation would be neces-

sary to enable the procedure to be fully and legally employed for the greatest benefit to all.

Orville A. Gartman, City of Oshkosh, appointed a committee of purchasing executives to work with the League of Wisconsin Municipalities in formulating proposed legislation.

The balance of the program was devoted to workshop sessions. The topics covered were: auto supplies, paper, tree sprays, grass seed, police and fire uniform specifications, and transportation exemptions.

Noted Educator Visits South Bend Association

The principal speaker at a recent meeting of the South Bend Purchasing Agents Association was Dr. John Hoagland, noted educator and economic analyst of Michigan State University.

Dr. Hoagland, through a series of charts and graphs, traced cycles through the past 10 years.

The Association also elected a new slate of officers at the same meeting. The following will serve



Outgoing president, H. J. Baker (center) of the South Bend Association, teams up with the new president and vice president. W. H. VanDerBeek (right) is president and Harry Lenard is vice president.

for the next year: W. H. VanDerBeek, National-Standard Company, president; Harry Lenard, Buescher Bend Instrument Co., first vice president; Lamoine O. Carter, The O'Brien Corp., second vice president; and H. J. Baker, U. S. Rubber Co., national director

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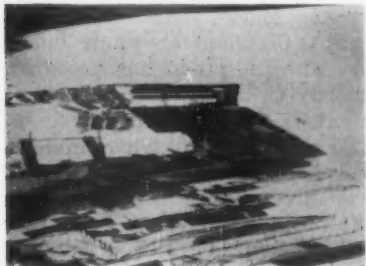


FIRST CHOICE FOR ACCURACY

PRATT & WHITNEY.

Industry

A half-million-dollar modernization and expansion program has been announced by **Western Gear Corporation** of **Lynwood, Calif.**, in connection with the purchase of a former U. S. Navy shipyard at **Everett, Wash.**



Acquisition of the manufacturing facilities will pave the way for relocation of the Seattle plant of the industrial products division of Western Gear. The present site lies in the path of the **Seattle-Tacoma Freeway**.

All operations of the Seattle plant will be gradually transferred to the new Everett plant. The firm

does not intend to enter the ship-building field but will continue to supply the marine market with equipment such as deck machinery, propulsion gears, steering engines and mechanisms.

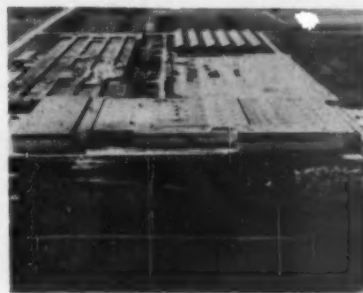
The industrial division of Western Gear specializes in marine deck machinery for military, naval and commercial vessels. The Seattle Works also produces heavy equipment for the lumber, pulp, and paper industries, the food-processing industries, and the steel and cement manufacturers.

A new plant to serve East Coast industry with the **Linde Company's** Flame-Plating process will be built at **North Haven, Conn.** Ground will be broken for the new plant in May, and completion is scheduled for December, 1960.

Flame-Plating, introduced in 1953, is Linde's process in which coatings of hard materials (such as tungsten carbide and alumin-

um oxide) are applied to parts made from a variety of base metals and other materials, providing them with far greater resistance to wear, abrasion, erosion and corrosion.

In just about a year from ground-breaking, **A. O. Smith Corporation's Harvestore Products Division**, recently dedicated its new 164,000 sq. ft. addition to the **Kankakee, Ill.**, works. The addition is said to be the first



completely automated line for the production of glass-coated products. A feature of the new

(Please turn to page 92)

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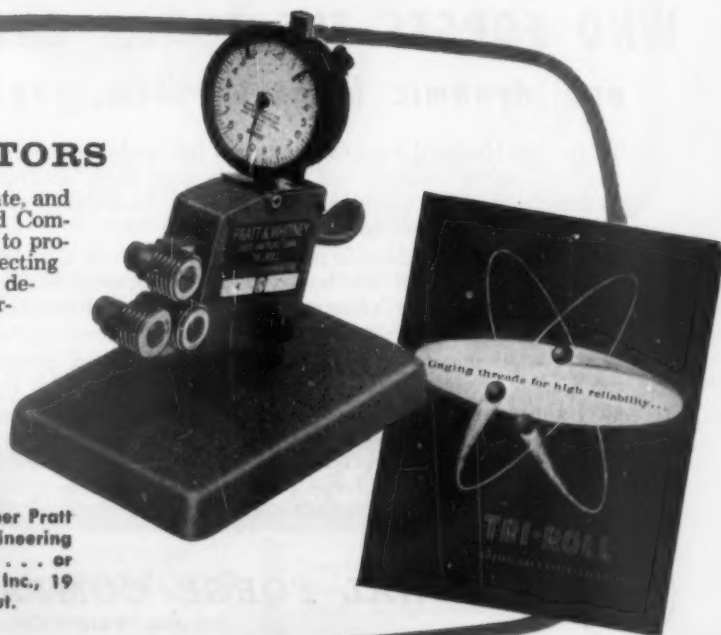
with PRATT & WHITNEY GAGES

TRI-ROLL THREAD COMPARATORS

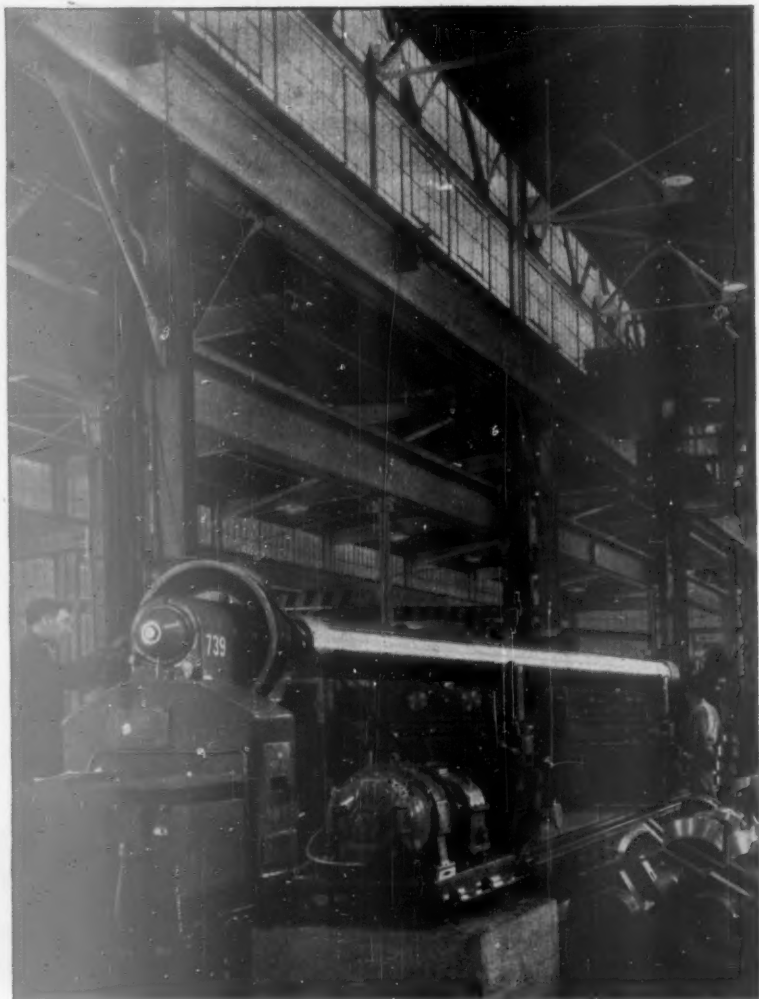
Fast and easy to operate, extremely accurate, and unusually versatile, P&W Tri-Roll Thread Comparators can be used with full-length rolls to provide a complete *functional* check . . . detecting errors in lead, angle, pitch diameter, and deviation from true helical path. Using interchangeable single-rib rolls, they provide a *critical* check of pitch diameter . . . duplicating the precise 3-wire method on a *production* basis!

For a complete discussion of the Tri-Roll Method for profitable control of precision threaded parts production, ask for P&W Circular No. 606.

For complete information about these and other Pratt & Whitney Gages — and for application engineering service — call your Local P&W Branch Office . . . or write direct to Pratt and Whitney Company, Inc., 19 Charter Oak Blvd., West Hartford, Connecticut.



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To further National Forge's reputation for producing precise forgings, we've installed one of the largest, most accurate dynamic balancing machines in use. Our American-Trebel has a 33,000-pound, 60-foot capacity.

Pictured on the machine is a 42 ft. propeller shaft that has been forged, machined, and hollow bored—all operations done in our National Forge plant—NF specialists are shown balancing this gigantic 15,500 lb. shaft.

If you want one responsible source to produce and control the quality of your forgings . . . from melting and forging the steel through machining and dynamic balancing . . . call National Forge. Let us quote on your next job—and prove "who forges and dynamic balances the tough ones . . . best!" For information on the "tough" ones and the machinery that makes them best, write for Bulletin NF 1.



NATIONAL FORGE COMPANY

Irvine, Warren County, Pa.

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Industry

(Continued from page 91)

facilities in the addition is a 180 ft. long, U-shaped continuous atmosphere controlled furnace. It is divided into three gas-fired radiant-tube firing zones and two cooling zones.

Pilot production began in January with full production expected shortly as all of the new equipment is placed into operation. The new plant will triple production of the company's line of glass-coated equipment.

The general manager of the Kankakee plant is Milt Morgan, formerly director of purchases at A. O. Smith's general offices in Milwaukee.

Allied Radio Corporation, Chicago, distributor of electronic equipment and manufacturer of Knight-Kits, is extending its operations to the West Coast. Effective April 1, 1960, Electronic Supply Corp. of Pasadena and Long Beach, California became a wholly owned subsidiary.

Westprest, Inc., a large custom stamping plant, has been established as a subsidiary of Worcester Pressed Steel Company, Worcester, Mass. Located in Amarillo, Texas, Westprest, Inc., was set up through the acquisition of two adjoining metal fabrication plants; Speedy Mfg. and Sales Corporation and Orna Metal Company. Extensive metal fabrication facilities are being expanded to 47,000 sq. ft. of floor area, and with new equipment now ordered, the plant will be the largest custom stamping facility in the Southwest, it is said.

Plans for the construction of a new plant at Belmont, Calif., to house manufacturing, sales, and warehouse activities have been announced by Cutler-Hammer Inc., Milwaukee, Wisconsin. The new plant will replace the outgrown manufacturing and office space in San Francisco and a warehouse in San Jose. Consolidation of these facilities is expected to pro-

vide more efficient operations and expanded and faster service to customers in the area.

The plant, to contain over 35,000 square feet of floor space, will be located in a newly developed industrial area at Belmont, approximately 20 miles south of San Francisco. It will produce motor controls and power distribution equipment. Ground breaking is planned for early spring with completion expected in late fall.

At groundbreaking ceremonies in Bartlett, Ill., Flexonics Corporation, announced the selection of a site for the headquarters of its general offices, manufacturing operations and research and development activities. The new industrial complex will be located on a 50 acre tract in Bartlett, near Elgin.



Flexonics, a manufacturer of flexible metal hose products, expansion joint, metal bellows, and aircraft and missile components, was recently acquired by Calumet & Hecla, Inc. Headquartered in Chicago, Calumet & Hecla is a primary fabricator of nonferrous metal tube and parts, operates copper and uranium mines, has extensive lumbering operations and is a producer of magnesium.

A new highly automated ore milling plant has been opened by The International Nickel Company of Canada, Limited, in the Sudbury area of Ontario. The mill located at Inco's Levack Mine and built at a cost of \$12,000,000, makes extensive use of instrumentation to permit centralized, and in some cases automatic, control of the crushing, grinding, flotation, and dewatering processes involved in the production of concentrates from ore. All operations are controlled from centrally located instrument panels.

(Please turn to page 95)

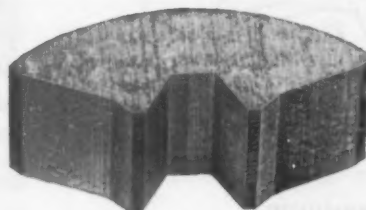
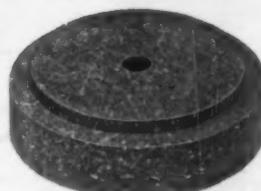
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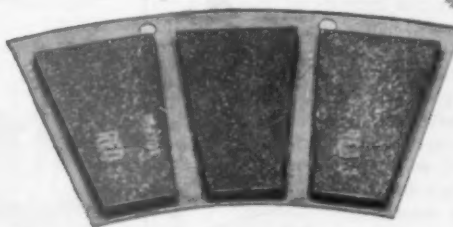
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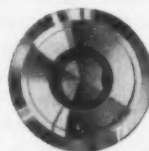
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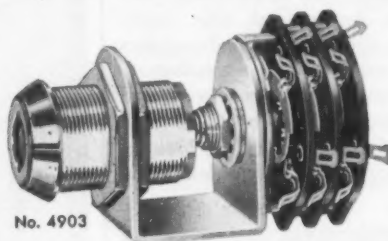
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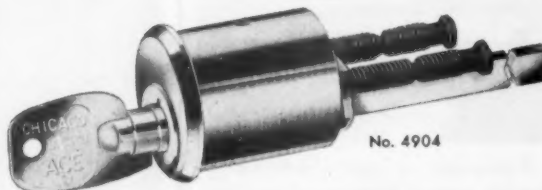
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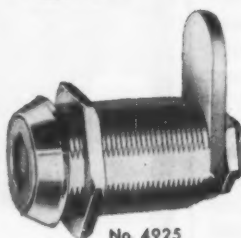
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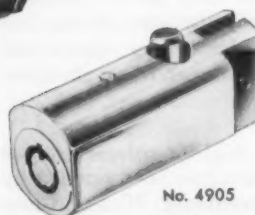
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CHICAGO LOCK CO.

2052 N. Racine Avenue • Chicago 14, Illinois

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Industry

(Continued from page 93)

Many recently developed techniques, such as the use of radioactive isotopes for making density measurements, have been incorporated into the new plant.

The addition with the new nickel mining project being developed at Thompson, Manitoba, will raise Inco's nickel production capacity to 385,000,000 pounds per year by 1961.

The Giddings & Lewis Machine Tool Company will sell its Cincinnati plant to The Cincinnati Milling Machine Company. The transaction involves real estate only and does not include the product line of Giddings & Lewis/Bickford radial and upright drilling machines being manufactured there, nor any of the equipment involved in their manufacture.

Giddings & Lewis will move the manufacturing of its drilling machines into Wisconsin where it operates machine tool plants in Fond du Lac and Kaukauna. Both plants have been enlarged in the past several years. The company's Davis Division, manufacturer of boring tools, also is located in Fond du Lac. A foundry acquired in 1958 is located at Menominee, Michigan.

The Chicago district sales offices and warehouse facilities of the American Chain & Cable Company, Inc., have been moved to



larger quarters at 2040 North Hawthorne Avenue, Melrose Park, Ill. New offices and warehouse have been combined under one roof, with a warehouse area

(Please turn to page 96)

JULY 4, 1960

FIR PLYWOOD PURCHASING GUIDE



1. Insist on DFPA Grade-Trademarks

DFPA grade-trademarks attest quality, performance and value. They appear only on plywood manufactured, inspected and laboratory-tested under the DFPA quality control program to assure conformance to U.S. Commercial Standard quality requirements.



2. Choose the right grade for each job

DFPA quality-tested fir plywood comes in two types: 1. *Exterior* (waterproof glue for permanent outdoor exposure); 2. *Interior* (moisture-resistant glue) for use indoors, temporary outdoor uses and sheathing.

Within each type are *appearance grades* to meet the exact needs of any given job. Most popular grades are shown below: (other grades including panels made of other western softwoods, also available)

TYPICAL USE	EXTERIOR-TYPE (Waterproof glue)	INTERIOR-TYPE (Moisture-resistant glue)
Where appearance of both sides important. Cabinet doors, single thickness walls, etc.	EXT-DFPA-A-A	INT-DFPA-A-A
Where only one side will be seen. Siding, paneling, signs, fixtures.	EXT-DFPA-A-C	INT-DFPA-A-D
Special concrete form grades. Both faces sound, solid, smooth.	PLYFORM (B-B) (maximum re-use)	PLYFORM (B-B) (multiple re-use)
Unadorned structural and maintenance panel. Sheathing, crating, temporary screening.	EXT-DFPA-C-C	PLYSCOR (C-D) (also available with Exterior glue)

SIZES: Standard fir plywood thicknesses are from 1/4" through 3/4"; standard size is 4' wide, 8' long. Other thicknesses and sizes are also available, including "king-size" scarfed panels up to 30' and 60' long.

TEXTURED FIR PLYWOOD — Fir plywood comes in several smart textured panels for special decorative applications such as siding, paneling, displays and fixtures. These include *Texture One-Eleven* Exterior plywood (deep parallel groove pattern, shiplapped edges) and panels with attractive brushed, striated, or embossed surfaces.

OVERLAID FIR PLYWOOD — is Exterior fir plywood with resin-fiber overlay permanently fused to one or both sides of panel. *High density* is hard, glossy, abrasion-resistant (use for long-lasting signs, shelving, concrete forms); *Medium density* overlaid plywood is smooth, with texture similar to drawing paper (ideal paint base for signs, fixtures, siding).



FREE WALL HANGERS — Handsome 18"x33" wall hanger. Handy fir plywood grade-use-specification guide. Order one for everyone in your firm who specifies fir plywood. Also available, specification portfolio. Includes detailed description all grades, sizes, specialty panels. Commercial Standards requirements. Offer good USA only. Douglas Fir Plywood Assoc., Tacoma 2, Wash., Dept. 192.

For More Information Write No. 215 on Place Mark Card—Page 32

Industry

(Continued from page 95)

of 48,000 square feet and an office area of 7,600 square feet.

Several divisions of the Corporation, including ACCO Equipment, ACCO Power Products, American Cable, American Chain, Hazard Wire Rope, Helicoid Gage, Page Steel & Wire, Pennsylvania Power Mower, R-P&C Valve, Wilson Mechanical Instrument, Wright Hoist, and the wholly owned subsidiary, The Bristol Company, will be served by the new headquarters.

Pyron Corporation, Niagara Falls, has been acquired by American Metal Climax, Inc., enabling it to produce both ferrous and non-ferrous metal powders.

Pyron's present capacity is approximately 7,500,000 pounds of iron powders per year. Expansion plans include the construction of a new plant in the Niagara Falls area to double output and provide adequate capacity to meet industry growth.

Pyron pioneered the production of iron powders by the hydrogen reduction method. Incorporated in 1942, the company was one of the first to produce iron powders in the United States. Its "Niagara 100" iron powder is widely used for the production of sintered structural parts.

Bendix Aviation Corporation has been appointed sole distributor and service representative in the United States for ma-



chine tool numerical control systems manufactured by **Ferranti, Ltd.**

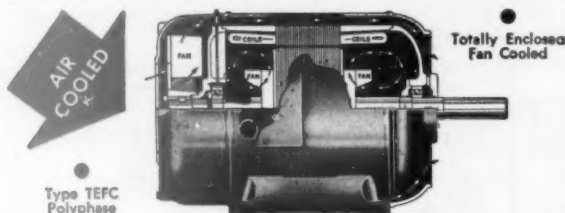
Ferranti, Ltd., one of the largest electrical equipment builders in

Great Britain, is a leader in the development and manufacture of numerical control systems in Europe. Ferranti controls have been applied to a variety of contouring, positioning and inspection machines. In addition to heavy electrical equipment, the company has a reputation in the commercial computer field and in military electronics.

Ferranti numerical control systems include a punched tape positioning system, a magnetic tape contouring system and a coordinate inspection machine.

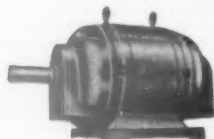
Ingersoll Products Division of **Borg-Warner Corporation** has acquired the **Elgin Metalformers Corporation** of Elgin, Ill., a supplier of metal modular-type enclosures to the electronics and communications industries.

More generally known under the trade name, **EMCOR**, the Elgin concern manufactures housings for electronic instruments, communications equipment, and related products.



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Other Models

Type SN polyphase, High Torque, constant speed, continuous duty, squirrel cage induction.

Type AN single phase, constant speed, repulsion start, induction run, continuous duty.

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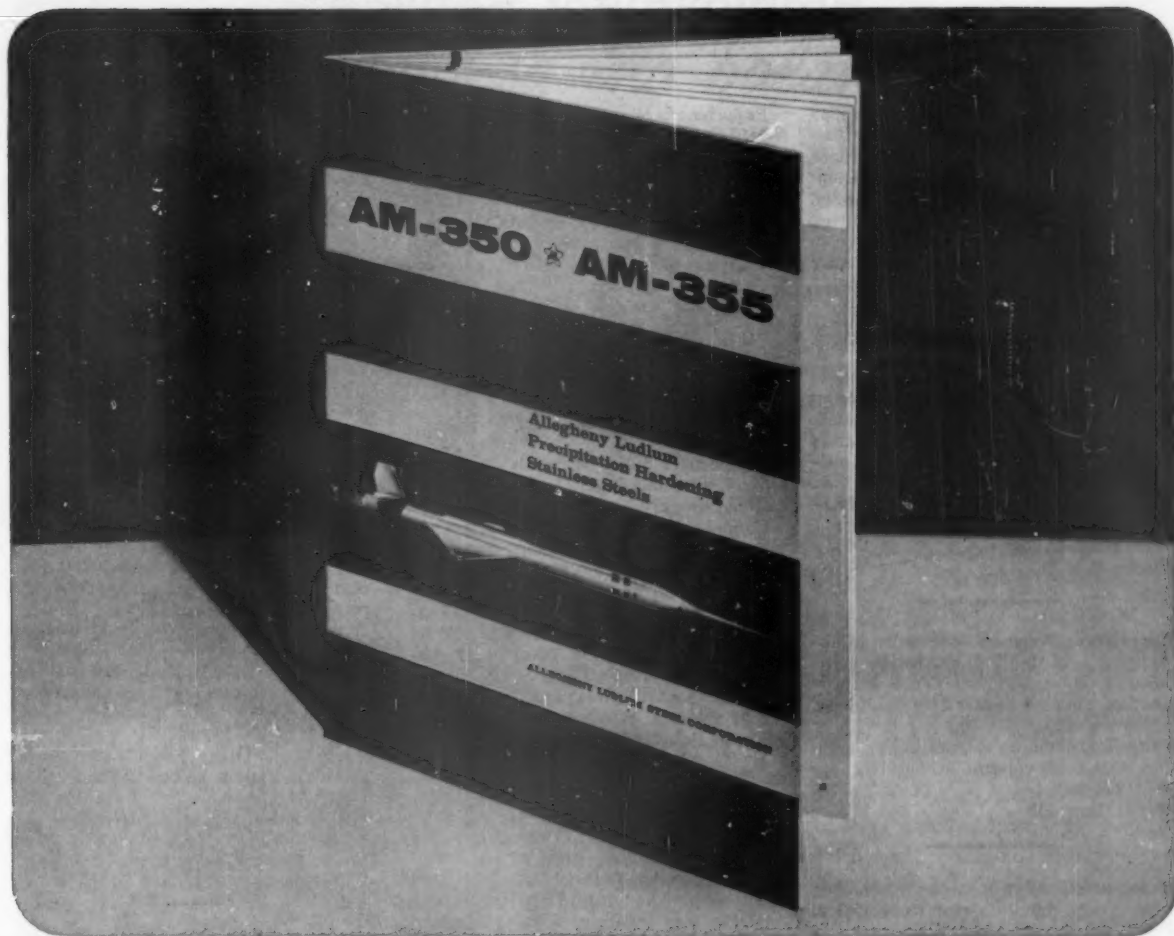


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A tool for anyone interested in high strength-to-weight metals

In this technical booklet, you get the facts on Allegheny Ludlum's precipitation hardening stainless steels, AM-350 and AM-355, metals developed for space age requirements.

AM-350 and AM-355 combine these unusual qualities. They are easy to fabricate. Have high strength-to-weight ratios at room and elevated temperatures

combined with excellent resistance to corrosion.

The physical and mechanical properties of the two metals are described in 33 charts and tables. Included are heat-treatment and fabrication data, eight photomicrographs and a section on corrosion resistance with representative values in selected environments.

It's jam-packed with data. For your free copy, see your A-L representative or write *Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pa. Address Dept. P-7.*

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EVERY FORM OF STAINLESS . . . EVERY HELP IN USING IT



Employment Service

Experience: Seven years diversified mechanical engineering. Experience in machine design, plant, specifications and reports. Foreign travel, proficient French and Spanish. Age 30, family. Desire purchasing position requiring broad technical knowledge.
Education: engineering college senior (BSME-1962).
Write: Box 166

Experience: Fifteen years as purchasing agent. Experience in organizing and managing a value analysis program. Purchase volume of 3.5 million dollars annually. Experience in handling multi-million dollar construction contracts.
Education: BS degree in bus. adm.—two years business law.
Will relocate.
Write: Box 215

Experience: Six years experience in expediting and buying electronic components. Have had experience in production control, scheduling, shipping, and receiving.
Education: Evening courses in bus. adm. and technical electronics.
Will relocate.
Write: Box 216

Experience: Manager of purchasing four years medium-size corporation. Purchase volume \$20 million annually including mro, outside conversion (forging, rolling) and raw materials (ores, reactive metals). Produce basic rolling and bar mill forms. Previously works metallurgist ore reduction plant.
Education: B.S. chemical engineering 1940 major school. Various evening courses 1946-1956 in engineering school: chemistry, metallurgy, industrial management, purchasing.
Will relocate.
Write: Box 210

Experience: Five and one-half years military supply management coupled with over two years negotiation of sub-contracts in nuclear industry. Broad experience in supervision of procurement, inventory control, traffic, storage, accounting and budget functions. Product and source knowledge of electronics, pumps, valves and other fields. Former contracting officer, strong in developing people and methods. Seeks management or senior staff position in improving present organization or building new one. Age 30.
Education: BBA in marketing plus one year each law school and MBA program. Other courses.
Will relocate.
Write: Box 197

Experience: Nineteen years purchasing for heavy manufacturing industry. Currently directing purchasing, material control, shipping, receiving, transportation, with staff of 14. Actively buying steel and non ferrous metals, electrical apparatus, prime movers, transmission equipment, plastics, MRO supplies. Canadian—age 45.
Education: Ontario senior matriculation. One year evening course in bus. adm.
Will relocate.
Write: Box 211

Experience: June '54 Smith Stationery Co. salesman—Feb. '55 Church Stagg Office Supply Co. salesman—Nov. '55 Connors Steel Div. H. K. Porter Co. buyer mill supplies, refractories, alloys, electrodes & heavy industrial equipment.
Education: 1948-1952 Ensley High, Ensley, Ala. General Course; 1952-55 University of Alabama, Tuscaloosa, Ala. bus. adm.; 1955-58 Howard College, B'ham, Ala. B.S. bus. adm. Age 26.
Will relocate. Southeastern U. S.
Write: Box 200

Experience: Expediter with electronics firm for 3½ years. Assistant office supervisor for one year in an insurance company. Four years as purchasing agent for insurance company—purchasing printing, office supplies, furniture and equipment. Responsible for six other sub-divisions of the company.
Education: Junior accounting—I.B.M. basic machine operation and wiring.
Will relocate.
Write: Box 204

HOW TO APPLY

Listings in this department are offered without charge. Both purchasing department personnel interested in changing jobs and employers in search of replacement or additions to their departments may take advantage of this service. When writing, specify whether you want the applicant's form or the employer's form. Address all correspondence—whether for forms, or in answer to an employment advertisement, to: Box No. Employment Service Department, Purchasing Magazine, 205 East 42nd Street, New York 17, New York.

Experience: Twenty years experience as director of purchases and purchasing agent with annual material requirements of two to six million dollars. Materials purchased include annual requirements of 5,000 tons steel (sheets, bars, plate, shapes, pipe, tubing); 500 tons castings (steel, malleable, gray iron, non-ferrous); lumber (2,000,000 feet) heavy electrical equipment.
Education: High School Correspondence Course, Structural Engineering, Wilson Engineering Corp., Cambridge, Mass.; night course in industrial management, St. Louis University; business management, Alexander Hamilton Institute.
Will relocate.
Write: Box 199

Experience: Ten years assistant p.a. for major manufacturer steel office equipment includes procurement of metals, screw machine products, packing materials, factory supplies and services in value analysis and standardization programs; previous experience in production scheduling and inventory control approx. 10,000 items.
Education: High School. Alexander Hamilton course in bus. adm. Member N.A.P.A.
Will relocate. Prefer eastern Colorado or Arizona.
Write: Box 201

Experience: Manufacturing manager, skilled in setting up and operating satellite plants; comprehensive, financially sound, and successful shifts from make-to-buy prec. mach. components. Manager purch., prod'n and inventory control for two years same ROI oriented company. In charge purch. or value analysis 4 yrs. one of auto's big three.
Education: B.S. mechanical engineering —M.A. econ. and bus. adm.—management course, American Management Association.
Will relocate.
Write: Box 209

Experience: Two and one-half years as buyer of laboratory equipment, instruments, chemicals. Three years ind. laboratory. Thorough knowledge of: expediting, market research, forecasting, cost analysis. English, French and German speaking. Excellent references. Age 30—single.
Education: 3 years college. Add. courses in textile chemistry, technology of fibers, graduate of purchasing course Univ. of Toronto (2 years).
Will relocate.
Write: Box 203

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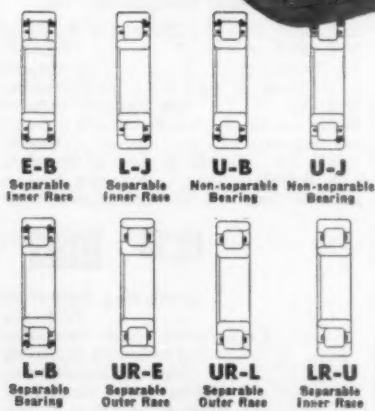
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JULY 4, 1960

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CDF manufactures the largest selection of grades to meet every major civilian and military requirement.

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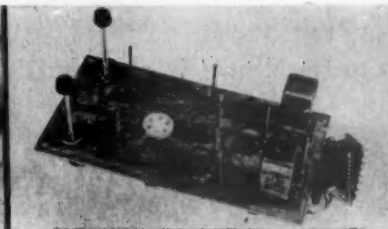


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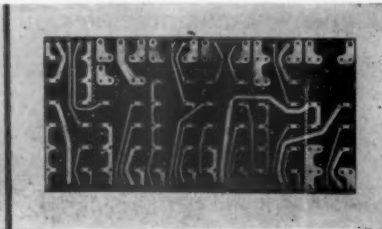
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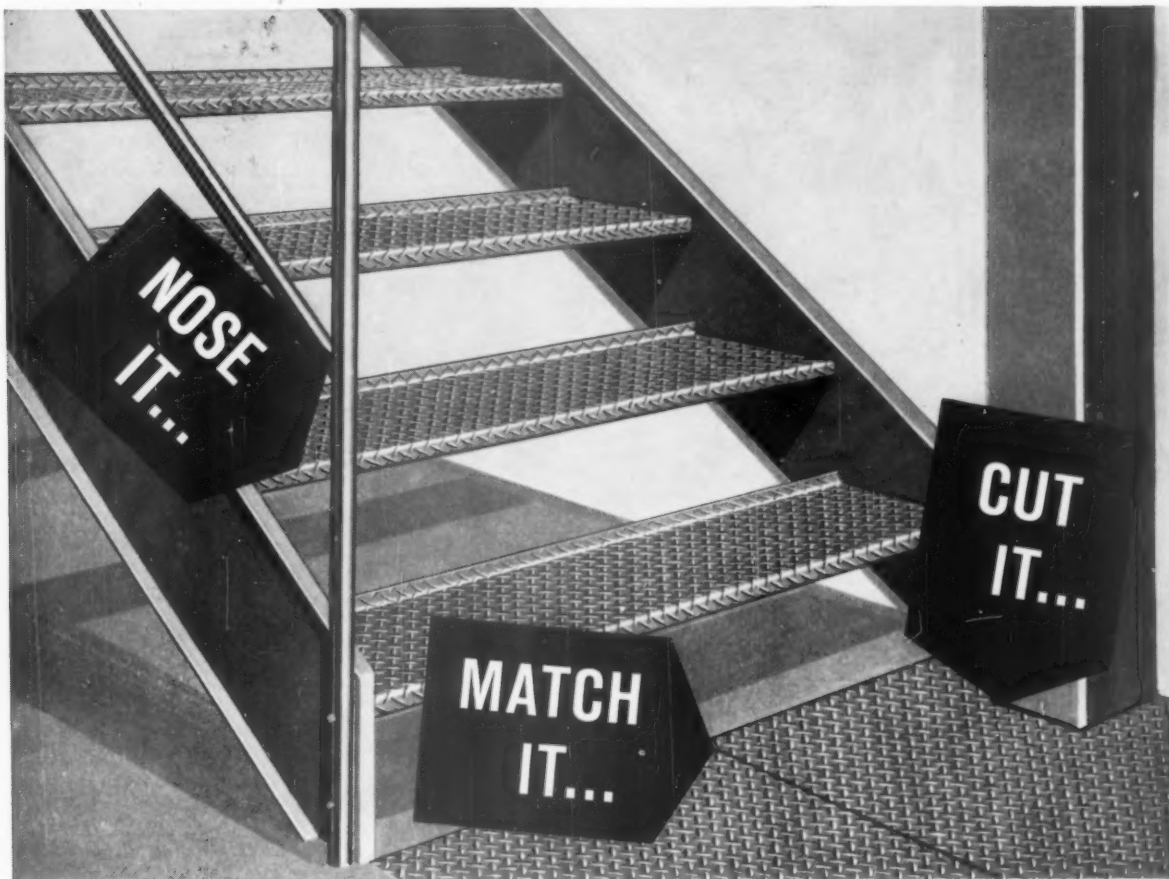
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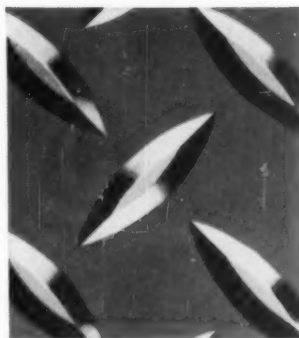


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